

IMPROVING STUDENT ENGAGEMENT USING COURSE-BASED SOCIAL
NETWORKS

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Improving Student Engagement Using Course-Based Social Networks

Thesis directed by Associate Professor Dawn Gregg

ABSTRACT

This study proposes an engagement model that supports use of course-based online social networks for engaging student, and hence, improving their educational outcomes. This research demonstrates that instructors who create course-based online social networks to communicate with students can increase the student engagement in these online social networks, and increase student perceived educational outcomes. The model is developed and tested in a higher education setting.

The primary contribution of this research is deepening insights into the information systems and communication artifact by conceptualizing a model that helps researchers understand the reasons why some communication types used by instructors via a course-based social network, such as appropriate humor messages, can improve engagement among students, and improve their perceived educational outcomes, while other communication types may negatively affect engagement within this course-based social network . One other contribution is studying the moderating impact of time spent by student in the online social network, as this factor makes the studying of engagement in online setting is unique than engagement in face-to-face setting.

The form and content of this abstract are approved. I recommend its publication.

Approved: Dawn G. Gregg

DEDICATION

I lovingly dedicate this thesis to my beautiful wife, Rasha, who has been with me through every step of this thesis, even when I couldn't be with her.

This work is also dedicated to my beloved kids, Dima, Sara, and Ahmad, "... to the moon and back."

Finally, this work is dedicated to my parents, Mohammad and Kadijah, who taught me the most important things I will ever learn: love of family, integrity, hard work, persistence.

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CHAPTER I

INTRODUCTION

IS researchers have become increasingly interested in understanding how to organize and facilitate the development of online social network groups (Nambisan and Nambisan, 2008; Wellman and Gulia, 1999, Bagozzi and Dholakia, 2002, 2006, Lin and Lee, 2006), which is defined by Cothrel (2000) as individuals interacting virtually via computer-mediated communications (CMC). Many reasons underlie this interest, including the ability of a sponsor or administrator in these groups, such as instructors, to facilitate deep and enduring affective bonds with members in these groups (Hagel and Armstrong, 1997, Dou and Krishnamurthy, 2007).

Social network sites (such as Facebook, MySpace, and Twitter, etc.) provide the opportunity for building and maintaining online social network groups around a specific interest (such as an educational interest). For example, instructors in higher education can create a course-based social network to engage students. Some of the promise and popularity of online social networks lie in their ability to offer an alternative means to communicate, and collaborate (Jarvenpaa et al., 2007). As such, they carry the potential to dramatically change the ways in which we interact with one another in both real and online world (Chaturvedi, Dolk, and Drnevich, 2011).

1.1 Research Problem and Scope

Unlike prior information technologies, the central theme in research surrounding social network use is engagement (Hassenzahl & Tractinsky, 2006), as opposed to system

usability, as defined under TAM (Davis, Bagozzi, and Warshaw, 1989). Research suggests that complex computer mediated communication systems must be not only usable, but engaging (O'Brien and Toms, 2003). This suggests that to understand the adoption and use of online social networks requires an examination of engagement by users within these networks (O'Brien and Toms, 2003). This represents a fundamental shift in focus from the design of the technology itself to how the technology is used by participants within these online social networks.

This research utilizes Communication Privacy Management theory (CPM) (Petronio, 2002) and Instructional Humor Processing theory (IHPT) to improve our understanding of how instructor use of self-disclosure and humor within a course-based social network can improve student engagement. This research also utilizes social presence theory to investigate the impact of instructor credibility on student engagement. Then it investigates the impact of engagement on perceived educational outcomes. These outcomes include student motivation to learn and satisfaction with learning. The moderating impact of time spent in the online social network by the student is investigated by this study as well. While higher education is not a traditional business environment, students in higher education are typically the early adopters for the newest technologies available and using higher education for this study may provide insights into how social networks can transform interaction in other domains as well (as called for by Benbasat & Zmud, 2003; Agarwal & Lucas, 2005; DeSanctis, 2003, and King & Lyytinen, 2004).

1.2 Topic Importance

The role social networks play in higher education is gaining increased attention with the rise of massively open online courses (MOOCs). In fact, many higher education leaders see MOOCs as the “future of higher education” (Schaffhauser, 2012). These systems rely on online social networks to create connectedness and to improve engagement. MOOCs use social networks to create and sustain the social dimension of learning, and to enhance knowledge production rather than simply providing a platform for knowledge consumption (Bousquet, 2102). Yet very little is known about the types of messages that are appropriate to be shared between instructors and students in these communities.

Most research on instructor student interaction conducted to date has been in face-to-face environments; little previous research has studied their impacts in online environments, like Facebook. Thus, there is a need to better understand how communication between instructor and students can be enhanced through the use of social network tools.

It is possible that what is true in face-to-face environments may not be true in online environments. First, in online environments, students are more likely and have more opportunity to spend more time interacting with other students and the instructor, which is not necessarily true in face-to-face environments. This raises the contextual condition that says why the studied relationships in this research could be stronger or weaker in online environments, and may not be the same as in face-to-face environments. Second, online environments have fewer cues about how to interpret messages. For example, the use of humor online could potentially pose problems because people often rely on environmental cues when deciding how to interpret a humorous message (Leventhal & Cupchik, 1976). Third, Child & Petronio (2010) have found that

individuals have different perceptions and rules for face-to-face self-disclosure than they have for self-disclosure in online social networks. For example, their research suggests that individuals tend to reveal more private information online (Child & Petronio, 2010). Fourth, Research also suggests that students may perceive an instructor use of Facebook as an attempt to foster positive relationships with students, and perceive the instructor as more available to students, which may improve perceptions of instructor credibility (Mazer, Murphy, and Simonds, 2007; O'Sullivan, Hunt, and Lippert, 2004), and hence improve student engagement. Accordingly, student expectations in online environments are likely to be different than in face-to-face environments. The discrepancy between engagement online and offline highlights the need for research on engagement in online social networks. This thesis addresses the critical need for an improved understanding of what messages are most effective in social networks used to support education.

1.3 Research Questions

This thesis is motivated by the following questions:

What types of communication messages can be used by instructors, via a course-based social network, to improve student engagement within this social network?

How does instructor credibility impact student engagement in a course-based social network?

How does engagement, in a course-based social network, impact educational outcomes, like motivation to learn and student satisfaction with learning?

Does the amount of time the student spends in the online social network moderate the impact of instructor credibility, instructor self-disclosure, and instructor use of humor on engagement?

1.4 Research Approach

This research utilizes Facebook pages and groups to provide instructors with the opportunity to communicate directly with students on the most popular social network platform without requiring the instructor to friend students, or to have access to their private profiles. The thesis includes two studies. The first study involves an exploratory study that utilizes a survey to investigate the best combination of communication types that can be used by instructors via a course-based social network (Facebook page or group). The second study involves a real-world experiment, where an instructor communicates with students via a course-based social network group for an entire semester. The experiment includes two groups. In the test group the instructor communicates using the most effective communication types identified in the exploratory study. In the control group the instructor only posts messages related to course content and school announcements via the Facebook page or group. The difference in the outcomes between the two groups is then measured using a survey and by recording the actual engagement. The unit of analysis is at the individual level as perceptions of student engagement and individual education outcomes are considered. Structural equation analysis is used to examine the proposed hypotheses and test for significant differences between groups. A post-hoc analysis is also conducted to examine differences in actual student engagement (likes and comments) between the two experimental groups.

1.5 Research Contribution

This research is significant because it utilizes Communication Privacy Management theory (Petronio, 2002) and Instructional Humor Processing theory to

expand our understanding of instructor self-disclosure and use of humor via a course-based social network. It also utilizes social presence theory to investigate the impact of instructor credibility on student engagement. The research also contributes to the theory by providing an engagement model that is unique to online educational setting, by utilizing Moore's transactional distance theory, to study the moderating impact of time spent by student in the online social network.

1.6 The Thesis Outline

The focus of this thesis is on engagement in course-based social networks. Chapter two will review the previous literature that has investigated our research problem. In chapter three we develop our research model and hypotheses. In chapter four, we present the exploratory study. In chapter five, we present the main study. In chapter six we discuss and interpret the results of our analysis. In this chapter we also conclude the thesis, present a discussion of the research contributions and implications for theory and practice, and discuss the study limitations and opportunities for future research.

CHAPTER II

LITERATURE REVIEW

Computer-mediated communication (CMC) is defined as the process by which people create, exchange, and perceive information using networked telecommunications systems (or non-networked computers) that facilitate encoding, transmitting, and decoding messages (December, 1996). CMC examples include e-mail, forums, chat, and online social networks (Herring, 2002). CMC modes have transformed organizational culture and interaction (Abbasi and Chen, 2008).

CMC has provided invaluable support for various business operations including organizational communication, knowledge dissemination, transfer of goods and services, and product reviews (Turney and Littman, 2003; Cothrel, 2000). CMC has enabled online social network groups (Wenger and Snyder, 2000), virtual teams and group support systems (Abbasi and Chen, 2008), and networks of practice (Wasko and Faraj, 2005). These systems enabled companies to tap into the wealth of information and expertise available across corporate lines, and facilitate organizational operations regardless of physical boundaries (Fjermestad and Hiltz, 1999; Montoya-Weiss, Massey, and Song, 2001). However, little research has investigated the potential impact of CMC on engagement in online social networks. In this section, the current literature on engagement is discussed. The current literature on communication that has the potential to build and support relationships is then discussed, followed by a review of literature on credibility. Finally, the current literature on using Facebook in education is discussed.

2.1 Engagement

Engagement with information technologies and systems is the feeling that a is the feeling that a system has caught, captured, and captivated user interest (Jacques, Preece, and Carey, 1995). System use, defined as the frequency, duration, and intensity of an employee's interactions with a particular system (Venkatesh et al., 2003, Davis et al. 1989), is similar to involvement which may occur because of task demands or deadlines and thus may not be enjoyable (Sandelands and Buckner, 1989). In contrast, engagement includes intrinsic interest. Therefore, there have been calls for research that help to create systems for which users' interactions are pleurably engaging, fun, and intrinsically motivating (Laurel, 1991; Malone and Lepper, 1987), to design systems to be more lively, intriguing, or fascinating (Giardina, 1992), and to recognize the achievement of engagement as an important goal in the design of systems (Mayes, 1992). Moreover, in the past few decades, human-computer interaction studies have emphasized the need to move beyond usability to understand and design for more engaging experiences (Hassenzahl and Tractinsky, 2006; Jacques et al., 1995; Laurel, 1993).

Engagement is considered "a desirable -even essential- human response to computer-mediated activities" (Laurel, 1993, p. 112). A Web interface that is boring, a multimedia presentation that does not captivate users' attention or an online forum that fails to engender a sense of community is quickly dismissed with a simple mouse click (O'Brien, 2008). Failing to engage users equates with no sale on an electronic commerce site and no transmission of information from a website. People go elsewhere to perform their tasks and communicate with colleagues and friends (O'Brien, 2008). Engaging interactions are sought after by both users and developers of computer systems and

applications. Given the increased emphasis on user experience, it is no longer sufficient to ensure that technologies are merely usable (Blythe, Overbeeke, Monk, and Wright, 2003). Successful technologies must engage users.

In face-to-face educational settings, student engagement was conceptualized as “a psychological process, specifically, the attention, interest, investment, and effort students expend in the work of learning” (Marks, 2000, P 154,155). There is a general agreement that engagement in learning is important for success (Klem and Connell, 2004) and is clearly an important component of the student experience. Research shows that student engagement in educational activities is positively related to learning, personal development and educational effectiveness (Klem and Connell, 2004). Research also links higher levels of engagement in school with improved performance. For example, researchers have found student engagement a robust predictor of student achievement and behavior in school (Voelkl, 1995; Finn, 1993; Arhar and Kromrey, 1993; Mounts and Steinberg, 1995). Students engaged in school are more likely to earn higher grades (Goodenow, 1993; Willingham, Pollack, and Lewis, 2002) and test scores, (Willingham, Pollack, and Lewis, 2002; Roderick and Engle, 2001) and have lower drop-out rates. (Connell, Halpcm-Kelsher, Clifford, Crichlow, and Usinger, 1995) In contrast, students with low levels of engagement are at risk for a variety of long-term adverse consequences, including disruptive behavior in class, absenteeism, and dropping out of school (Steinberg, Brown, and Dombusch, 1996; Finn, 1989; Lee, Smith, and Croninger, 1995).

The limited evidence to date about the relationship between student use of technology and student engagement, mostly from face-to-face educational settings, have

affirmed the utility of information technology on: promoting student engagement (Hu and Kuh, 2001; Nelson Laird and Kuh, 2005; Robinson and Hullinger, 2008), and affecting a variety of outcomes such as student self-reported gains in general education, personal development, and intellectual development (Hu and Kuh, 2001; Kuh and Hu, 2001; Kuh and Vesper, 2001). However, some studies show mixed results. For example, Alavi (1994) and Oblinger and Maruyama (1996) provided evidence that educationally purposeful use of information technology, such as e-mailing instructors or other students about assignments, does encourage collaboration among students. Chen, Lambert, and Guidry (2010) found a positive relationship between Web-based learning technology use and student engagement and desirable learning outcomes. They found that students who utilize the Web and Internet technologies in their learning tend to score higher in the traditional student engagement measures. Similarly, Robinson and Hullinger (2008) found that asynchronous instructional technology provide students with more time to think critically and reflectively, which in turns stimulates higher order thinking such as analysis, synthesis, judgment, and application of knowledge. At the same time, Reisberg (2000) suggests that uses of information technology may distract students from participating in empirically confirmed effective educational practices.

Research by Atkinson and Kydd (1997); Dyck and Smither (1994) and Whitley (1997) investigated student engagement in the online educational environment, and have shown that experience with information technologies is associated with student engagement. This experience has been associated with spending more time in the online educational environment (Hiltz, 1994; Ridley and Sammour, 1994). This suggests that

students who spend more time in the online educational environment are more likely to be engaged in and satisfied with their own learning experience.

In online education, research has found that for learning to take place, online presentations should engage their audiences (Webster and Ho, 1997; Jacques et al., 1995), and educators should critically engage students with technology (Salvo, 2002). Although engagement represents an important issue faced by instructors when communicating online with students, little empirical research has addressed how best to improve student engagement in an online setting (Mallon and Webb, 2000). Similarly, while the number of college courses being delivered via the internet is increasing rapidly, our knowledge of what makes these courses effective learning experiences that engage students is still limited (Arbaugh, 2000). The evaluation of online learning needs to go beyond traditional measures of student's knowledge and learning and consider the quality of the learning experience as a whole (Robinson and Hullinger, 2008). Measures of student engagement offer such an evaluation.

There are numerous differences between online settings and face-to-face classrooms which can impact engagement. In online setting students are more likely and have more opportunity to spend more time interacting with other students and the instructor. However, educators also report challenges engaging students in online work (Andrew Miller, 2012, Joanne M. Kossuth, 2011). The fundamental differences that exist between online interaction and face-to-face interaction suggest there is a need to better understand how engagement can be improved in online settings. One way to build engagement in online setting is through the use of communication that builds and improves interpersonal and professional relationships.

This study investigates the nature of student engagement in online educational environment to answer the questions of what promotes engagement in the online environment when using specific technology, online social networks, rather than studying the impact of using information technology in general.

2.2 Relationship Building Communication

The role of communication in relationship building is crucial (Berger & Calabrese, 1975), and it is an essential part of building engagement in online social networks (Kodish & Pettegrew, 2008).

Uncertainty Reduction Theory (URT) (Berger & Calabrese, 1975) presumes that the beginning of interpersonal relationships is fraught with uncertainties, and people want to reduce uncertainty in relationships through knowledge and understanding. Communicating directly with a person is one way to learn about each other and reduce uncertainty in relationships (Berger & Calabrese, 1975). This suggests that communications increases knowledge about others, reduces uncertainty in relationships, and hence, builds relationships and engagement among members of online groups. Two types of communication commonly used when building relationships are self-disclosure and humor. These two types of communication were selected after looking at some real course-based social networks used by instructors to communicate with their students, mainly via Facebook and twitter.

2.2.1 Self-Disclosure. Wheelless & Grotz (1976) defined the self-disclosure construct as “any message about the self that a person communicates to another”. Research in face-to-face environments suggests that people have higher satisfaction and

feelings of trust and solidarity when they have relationships with higher levels of self-disclosure (Wheeless, 1976, 1978; Wheeless & Grotz, 1977; Martin & Anderson, 1995; Martin, Anderson, & Mottet, 1997, 1999).

Social Penetration Theory (SPT) (Altman and Taylor, 1973; Taylor, 1968; Taylor and Altman, 1975; Shaw and Costanzo, 1982) suggests that relational closeness and interpersonal communication progress from superficial to intimate as relationships develop. It suggests that closeness develops through self-disclosure (Taylor and Altman, 1975). Self-disclosure stimulates feedback. The quality of the feedback is related to the amount and relevance of self-disclosure we receive and share with others. Self-disclosure increases with the need to reduce uncertainty in a relationship.

Communication privacy management (CPM) theory (Petronio, 2002) “offers a privacy management system that identifies ways privacy boundaries are coordinated between and among individuals” (Petronio, 2002, p. 3) and “suggests a way to understand the tension between revealing and concealing private information” (Petronio, 2007, p. 218) between and among those individuals. CPM is an evidence-based theory about how people manage private information disclosure. CPM asserts that there are relational and personal needs, like engaging others, that are met by giving access or revealing private information.

Self-disclosure has both benefits and risks (Metzger, 2007). The benefits of disclosing private information include self-expression, social control, and the potential for improving interpersonal relationships (Petronio, 2002; Taylor and Altman, 1975). The risks may include loss of face, status, control, or credibility (Metzger, 2007). CPM theory states that individuals develop rules to help them maximize the benefits of disclosure.

These rules help individuals decide what, when, and whom to disclose (Petronio, 2002). However, CPM theory does not explain what factors make disclosure is associated with risk or associated with benefits. The relevance of self-disclosure has an impact on benefits and risks of self-disclosure, and hence on interpersonal relationships (Taylor and Altman, 1975).

CPM has been utilized to explain self-disclosure issues in personal relationships (e.g., Caughlin & Afifi, 2004; Mazur & Ebesu Hubbard, 2004). (Rawlins, 2000) contended that the balance between self-disclosure and concealing of private information is especially important when considering the classroom context. Principles of CPM theory can be utilized to investigate instructor privacy management in the classroom context, where instructor-students relationship is public, yet instructors do disclose some private information.

2.2.2 Humor. Humor is defined as communication that involves multiple, incongruous meanings that are amusing in some manner (Gervais and Wilson, 2005). S. Booth-Butterfield and Booth-Butterfield (1991) emphasized the intentional use of both verbal and nonverbal communication behaviors that elicit positive responses like laughter and joy in their definition of humor.

Research provides some evidence that humor can be used appropriately in the classroom to enhance learning and student perceived learning outcomes. However, other research has demonstrated a negative impact of humor on learning (e.g., Harris, 1989; Stuart & Rosenfeld, 1994; Torok, McMorris, & Lin, 2004; Ziv, 1988). These conflicting results may be due to differences in the experimental procedures. For example one study asked students to recall a class environment where humor has been used (Gorham &

Christophel, 1990). Other studies used an artificial experimental setting (Ziv, 1988). Another possible cause for differences in past experimental results may be that different types of humor were used or that the delivery mechanism for the humor differed. For example, some studies have introduced humor through instructor lectures, cartoons, or audiotapes (Banas, Dunbar, Rodriguez & Liu, 2011).

Research by Baxter & Wilmot (1984) and Graham (1995) indicated that a sense of humor facilitates the reduction of uncertainty in interpersonal relationships and also serves to reduce social distance between interactants, and hence improves their engagement in a community. Humor is important in a variety of settings, including the development of social relationships (Alberts, 1990; Baxter, 1992). Humor is an engaging personality trait that has direct implications on building interpersonal and professional relationships and communication (Graham, 1995). People at all relationship stages identify humor as a key factor in communication satisfaction (Hecht, 1984), and relationship maintenance (Canary, Stafford, Hause, & Wallace, 1993).

Incongruity theory provides evidence as to why humor is useful in relationship building especially in educational settings. Incongruity theory suggests that people find something humorous when they are required to resolve incongruities in the message (Berlyne, 1960; Suls, 1972). The processing of these humorous incongruities can lead to a cognitive shift resulting from the sudden solution to the problem posed (Latta, 1999; Brian Boyd, 2004). The enjoyment gained from successfully resolving humor can lead to beneficial outcome.

Research by Kurtzberg, Naquin, and Belkin (2009) demonstrates that the use of humor in communication results in increased trust and satisfaction levels, higher joint

gains for the community, and higher individual gains for the community member who initiated the humorous event. This suggests that the individual who initiates humor is engaging others in the community, and improving their joint gains and individual outcomes.

2.3 Credibility

Credibility refers to “the attitude of a receiver which references the degree to which a source is seen to be believable” (McCroskey, 1998, p. 80). Instructor credibility, which is one of the most important variables affecting the instructor-student relationship (Myers, 2001), is defined as the degree to which an instructor is perceived to know what he or she is talking about, the degree to which the instructor is perceived as honest, and the degree to which the instructor is perceived as to have the students’ best interests in mind (McCroskey and Teven, 1999). Researchers have identified instructor credibility as a critical factor in the learning process, “the higher the credibility, the higher the learning” (Thweatt & McCroskey, 1998, p. 349). Research shows that perceived instructor credibility matters to instructors and students alike (Obermiller, Ruppert, and Atwood, 2012; Lavin, Davies, and Carr, 2010).

Prior studies on instructor credibility have found when instructors are viewed as credible sources of knowledge and academic support, several important classroom outcomes are enhanced, including, but not limited to, learning (Frymier and Thompson, 1992; Martin, Mottet, and Chesebro, 1997; McCroskey, Valencic, and Richmond, 2004; Schrodtt et al., 2009), student motivation to learn (Frymier and Thompson, 1992; Martin, Mottet, and Chesebro, 1997), communication between the instructor and student, both in

and out of the classroom (Myers, 2004; Myers and Bryant, 2004), perceived teaching effectiveness (Myers, 2004), student perceptions of cognitive learning and affective learning (Johnson & Miller, 2002; Russ, Simonds, & Hunt, 2002; Teven & McCroskey, 1997), instructor affinity seeking behaviors (Frymier & Thompson, 1992), instructor assertiveness and responsiveness (Martin, Chesebro, & Mottet, 1997), teacher immediacy (Thweatt & McCroskey, 1998), perceived instructor argumentativeness (Schrodt, 2003), and affect for the course and instructor (McCroskey et al., 2004).

Students who consider their instructors to be credible recommend these instructors to their friends (Nadler & Nadler, 2001), feel understood by their instructors (Schrodt, 2003), evaluate both the class and their instructor more positively (Schrodt, 2003; Teven & McCroskey, 1997; Lavin, Davies, and Carr, 2010), are generally more satisfied (Obermiller, Ruppert, and Atwood, 2012), and are likely to take additional courses from them (Nadler and Nadler, 2001). Lavin, Davies, and Carr (2010) found credibility to have impacts on the student's preparation for each class, attentiveness, appreciation for instructor effort, and respect for the instructor (Martinez-Egger and Powers, 2002).

Nearly two decades ago, Frymier and Thompson (1992) noted that there was little research offering instructors advice on how to increase their credibility in the classroom, which established a new direction in research studying instructor credibility. Consequently, instructional communication researchers have devoted substantial efforts toward addressing the issue of offering instructors advice on how to increase their credibility. Some investigators have focused primarily on instructor characteristics and communication behaviors that enhance credibility (e.g., Edwards & Myers, 2007; Martin,

Chesebro, & Mottet, 1997; McCroskey, Valencic, & Richmond, 2004; Myers, 2001; Schrod, 2003; Schrod, Turman, & Soliz, 2006; Teven, 2001; Semlak & Pearson, 2008), and instructor behaviors (McCroskey et al., 2004). In particular, instructors who use argumentative messages (Schrod, 2003), verbal and nonverbal immediacy behaviors (Johnson & Miller, 2002; Teven & Hanson, 2004), affinity-seeking behaviors (Frymier & Thompson, 1992), appropriate levels of technology use (Schrod & Turman, 2005; Schrod & Witt, 2006), who are assertive and responsive (Martin, Chesebro, & Mottet, 1997), who use nonverbal immediacy cues (McCroskey et al., 2004; Teven & Hanson, 2004), and who engage in out-of-class communication with their students (Myers, 2004) are generally perceived as being more credible in the classroom. Other variables affecting instructor credibility include how the instructor dresses (Morris, Gorham, Cohen, & Huffman, 1996), the instructional format of the course (Todd, Tillson, Cox, & Malinauskas, 2000), the aesthetic appeal of the instructor's office (Teven & Comadena, 1996), and the instructor's sex, race, age, and ethnicity (Hendrix, 1998; Patton, 1999; Semlak, Pearson, 2008). Conversely, instructor credibility is inversely associated with instructor misbehavior (Thweatt & McCroskey, 1998) such as perceived instructor verbal aggressiveness (Myers, 2001; Schrod, 2003).

Instructor credibility has been found to mediate the effects of instructors' prosocial communication behaviors on students' learning outcomes (Schrod et al., 2009), mediate instructors' classroom communication behaviors (nonverbal immediacy, enthusiasm, and homophily) and students' intentions to persist in college (Wheless, Witt, Maresh, Bryand, and Schrod, 2011). Instructor credibility has been also found to fully mediate the effects of immediacy and partially mediate the effects of instructor

confirmation and clarity on learning outcomes (Schrodt et al., 2009). Enhanced credibility not only functions as a positive outcome of effective classroom instruction but also mediates the effects of instructor behaviors to student and classroom outcomes (Finn et al., 2009).

Current research has focused on instructor credibility as both a product of instructor behaviors and as an antecedent to student learning outcomes in the college classroom (McCroskey et al., 2004). The concept and aspects of perceived credibility, its importance to the teaching experience, and the specific importance of communication behaviors in credibility impressions, have received substantial attention in instructor credibility research. However, little attention has been devoted to the role instructor credibility can play in engaging students especially in online educational environments.

When studying instructor credibility in an online context, there are several factors that can impact students' credibility perceptions. Previous studies (Fogg, 2002; Fogg and Marshall, 2001; Fogg and Tseng, 1999; Fogg, Marshall, Laraki, Varma, Fang, Paul, Rangnekar, Shon, Swani, and Treinen, 2001; Johnson and Wiedenbeck, 2009) show that providing information about the author of online information as well as a picture enhances credibility. The types of information the instructor shares online can also impact credibility perceptions. Johnson (2011) examined whether posting social, scholarly, or a combination of social and scholarly information to Twitter has an impact on the perceived credibility of the instructor. She found that participants who viewed only the social tweets rated the instructor significantly higher in perceived credibility than the group that viewed only the scholarly tweets. Myers, Brann, & Members of Comm 600 (2009) examined how college students consider their instructors to establish and enhance

their credibility through their in-class self-disclosure. Witt and Kerssen-Griep (2011) investigated the combined effects of face-threat mitigation and instructor nonverbal immediacy on perceived instructor credibility.

Today, the communicative interaction opportunities between instructors and students are broadened, mainly through online social networks. Instructors report anecdotally that these technologies have increased the time, frequency, and breadth of instructor-student communication (Jacobs, 2004; Menzies & Newson, 2007; Osterlund & Robson, 2009). A generation ago, most communication occurred in the classroom or in office hours (Obermiller, Ruppert, and Atwood, 2012). Computer-mediated communication, like online social networks, has increased the time available for interacting among students, and between students and the instructor. Computer-mediated communication demands an expansion of our understanding of instructor credibility in an online educational environment, and its impact on student engagement in such an environment.

2.4 Facebook in Education

Social networks sites (such as Facebook, MySpace, Twitter, etc.) are Internet-based CMC. Social networks sites are web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system (Boyd and Ellison, 2007). Most of the online interactions via these social network sites were found to be between people who have also talked on the telephone or met face-to-face, real life friends or colleagues

(Miller & Slater, 2000). One domain where social network sites are increasingly important is higher education. Social network sites allow students and their instructor to enhance their face-to-face interaction. Social network sites can be used by instructor to engage students. Researchers argue that social network systems should be a part of the classroom experience to support education communication, interaction, and relationships (Bosch, 2009).

Facebook is the dominant social network site used in education. It is distinctive from all other social network systems because it has stronger roots in the academic community (Downes, 2007), and is the largest social network site (Raphael, 2009).

Students typically check their Facebook accounts much more often than their schools' online course administration software, even when this software provides chat-rooms and discussion boards for synchronous and asynchronous online discussions (Bosch, 2009). This suggests that it is not only the functionality provided by Facebook that drives interaction, it is also the acceptance of such a network. Students even check their email and Facebook with approximately equal frequency (Roblyer, McDaniel, Webb, Herman, & Witty, 2010) which indicates the degree to which Facebook is integrated into student daily lives.

Facebook is providing the opportunity to enhance the out-of-class communication. Out-of-class communication is defined as "instructor-student communication, occurring outside of the classroom setting that demonstrates responsiveness to students' needs" (Jones, 2008, p. 375). These interactions are often voluntary, yet most students report having some amount of out-of-class communication

with their instructors (Fusani, 1994; Jaasma & Koper, 1999). Out-of-class communication has been found to be positively related to student motivation (Knapp & Martin, 2003; Jaasma & Koper, 1999). Waldeck, Kearney, and Plax (2001) found that students are more likely to communicate with those instructors online who utilize immediacy behaviors (e.g., use humor in classroom, or use Facebook in communication with students). The more students involve and get feedback on their learning activities, or problem solving, the more adept they should become (Kuh, 2003; Shulman, 2002).

Researchers have investigated whether Facebook and social networks sites pose a distraction from academic pursuits rather than a conduit towards educational goals (Selwyn, 2009). Research has examined how students feel about having contact with their instructors on Facebook, and how this contact influences student perceptions of their instructors (Hewitt & Forte, 2006; Mazer, Murphy, & Simonds, 2009). The developing opportunities that Facebook can provide for education caused Facebook.com to ask developers to build new educational platforms to provide collaboration and connections' tools in classrooms (Morin, 2007). This is in addition to the pages and groups that are already available in Facebook which can be used to support university courses.

Mazer et al. (2007) compared Facebook to university-housed discussion boards and found that student interaction on Facebook is high, while interaction on a typical university discussion boards is more limited. This may be because university discussion boards are mostly static or because students expect a more professional website when they use the university-housed discussion boards. Studies comparing student interaction rate on Facebook comparing to course management systems found that students preferred interaction on Facebook over the interaction on classic course management systems

(Kosik, 2007; Stutzman, 2008). Both Stutzman (2008) and Kosik (2007) reported that student preference for Facebook primarily stems from their familiarity and experience with Facebook, as well as from the immediate response they get when they need help. Studies investigating instructor motivations for using Facebook over other course management systems found a desire to meet students at their spaces and to break down barriers between themselves and students. Other research encouraged instructors to integrate Facebook into their university courses to foster critical thinking and allow students to create connections among their peers (Barnes, Marateo, and Ferris, 2007).

CHAPTER III

THEORETICAL BACKGROUND

Initial research on the use of online social networks in education suggests they can be helpful. However, research has not addressed how instructors may best use these tools to engage students and improve their educational outcomes. This study examines how self-disclosure (both course related and unrelated), the use of humor via a course-based social network, and instructor credibility can be used to improve student engagement, as well as to improve perceived educational outcomes, like student motivation to learn, and satisfaction with learning.

Engagement is the feeling that a system has caught, captured and captivated user interest (Jacques et al., 1995). Student engagement in a course-based social network means this course-based social network keeps the student totally absorbed in the browsing of content of this social network, holds the student attention, excites the student curiosity, is fun, is intrinsically interesting, and is generally engaging.

3.1 Self-Disclosure and Engagement

One type of communication that can be used in a course-based social network by instructors is self-disclosure. Research suggest that when instructors personalize their teaching by talking about themselves, and telling stories (Nussbaum, Comadena, & Holladay, 1987), it leads to improvements to the clarity of the information presented for students (Downs, Javidi, and Nussbaum, 1988; Wambach and Brothen, 1997), which held the student attention, improvements to the student perceptions of affective learning (Sorensen, 1989), which excited the student curiosity, and improvements in the students

perceptions of their instructors ability to explain course content (Andersen, Norton, & Nussbaum, 1981; Bryant, Comiskey, Crane, & Zillman, 1980; Bryant, Comiskey, & Zillman, 1979; Civikly, 1986; Norton & Nussbaum, 1981), which make absorbing these course content is intrinsically interesting. Holding the student attention, exciting the student curiosity, and the feeling of intrinsically interesting when absorbing course content are components of student engagement.

Fusani (1994) claimed that instructor self-disclosure is a rich personal source of student-teacher communication. Cayanus (2004) argued for the use of instructor self-disclosure as an effective instructional tool to foster student learning and make it intrinsically interesting. Gorham (1988) and McBride & Wahl (2005) contend that instructor self-disclosure behavior is a strategy that instructors can use to create an immediate classroom environment that encourages students' participation, and attract student attention. Self-disclosure used during out-of-class communication allows for the disclosures to be more personalized and directly related to student's problems (Fusani, 1994). Communication behaviors of instructors, like their self-disclosure via a course-based social network, influence student motives for communicating within the classroom (face-to-face community) and out-of-classroom (via the course-based social network), and increase student tendencies to communicate (Cayanus, Martin, and Weber, 2003; Myers, Mottet, & Martin, 2000; Mottet, Martin, & Myers, 2004), by making these communication are perceived as more interesting by the student.

Prior research has investigated the impact of self-disclosure on individual students' educational outcomes (e.g. Mazer, Murphy, and Simonds, 2007). However, it has only investigated the impact of the quantity of instructor self-disclosure on

educational outcomes, and not the impact of different types of self-disclosure. Past research in face-to-face environments indicates that the impact of instructor self-disclosure is dependent on more than just the amount of self-disclosure made (Lannutti and Strauman, 2006). It suggests that types of information disclosed will have different impacts (Cayanus & Martin, 2008). This study extends prior research by examining the impact of two types of instructor self-disclosure via a social network: self-disclosure about instructor private information related to the course, e.g., work experience, and self-disclosure about the instructor's private information unrelated to the course, e.g., personal life and beliefs.

Communication privacy management theory (CPM) suggests that the decisions about whether and when to disclose private information is rule-based (Petronio, 2002). These rules are formed based on a variety of criteria, including culture, gender, contextual factors, risk-benefit ratio, and motivations. The same rules could be utilized by instructors, intentionally or unintentionally, to manage their private information self-disclosure. For instance, instructors may employ a motivation rule to evaluate their desire to engage students in the course-based social network and to improve student educational outcomes. However, a risk-benefit ratio rule also governs the instructor self-disclosure. For example, disclosing about work experiences related to the course may have a different risks and benefits than disclosing about beliefs unrelated to the course. CPM theory states that individuals develop rules to help them maximize the benefits of disclosure. These rules help individuals decide what, when, and whom to disclose (Petronio, 2002). However, CPM theory does not explain what disclosure factors are associated with risk or associated with benefits. The type and relevance of self-disclosure

has an impact on benefits and risks of self-disclosure, and hence on interpersonal relationships (Taylor and Altman, 1975).

Researchers investigating self-disclosure in traditional classrooms found that it can create an environment that encourages student participation (Goldstein & Benassi, 1994). However, researchers have also found that certain topics should be avoided by instructors. Nunziata (2007) reported that an instructor's personal problems, personal opinions, and alcohol consumption are viewed by students as inappropriate forms of instructor self-disclosure, which could negatively affect perceptions of instructor credibility, and make communication with this instructor is less interesting. Lannutti & Straumann (2006) argued that instructor self-disclosure should not muddy the professional boundary between the instructor and the student, or hold their attention off learning. Finally, research by Chaikin and Derlega (1974) suggests that self-disclosure of intimate and private information to a stranger, self-disclosure to an acquaintance, and self-disclosure to someone of a different age or position is less appropriate and more maladjusted than nondisclosure.

Online communication has been shown to have higher levels of self-disclosure than seen in face-to-face communication (Des Jarlais et al., 1999; Epstein, Barker, & Krotil, 2001; Lessler, Caspar, Penne, & Barker, 2000). Researchers have found that there can be an online “dis-inhibition effect” that allows some people to self-disclose more frequently or more intensely than they would in person (Suler, 2004). There are a number of characteristics of online communication that can lead to increased sharing of personal information. One factor that has been found to increase self-disclosure online is the relative anonymity associated with online communication (Sobel, 2000; McKenna and

Bargh, 2000, Joinson, 2001, Joinson, 2003). Another characteristic of online communication that can encourage enhanced information sharing is the fact that there are reduced nonverbal cues when communicating online (Suler, 2004; Walther, 1996). The fundamental differences between face-to-face communication and online communication have led to differing sets of privacy rules for the two different communication types. In fact, researchers have found that there are two different sets of norms (or privacy rules) governing offline and online self-disclosure and these norms are unrelated (Mesch and Baker, 2010). This is consistent with prior research investigating instructor communication via Twitter. Researchers found that instructors that post social information to twitter are perceived by students as being more credible than those who post more scholarly content (Johnson, 2011).

Instructor self-disclosure to students via a course-based social network is a form of professional communication which can have higher risks related to information sharing than most social communication types. Accordingly, communication privacy management theory suggests that personal information should only be shared if there is a direct benefit to students that outweighs these risks. Thus the following hypotheses are proposed:

H1: Self-disclosure via a course-based social network about topics directly related to the course will have a positive impact on student engagement in the course-based social network.

H2: Self-disclosure via a course-based social network about topics unrelated to the course will have a negative impact on student engagement in the course-based social network.

3.2 Humor and Engagement

Gorham and Christophel (1990) identified humor in academic context as an important immediacy behavior that can facilitate student learning, and positive perceptions of instructors, which may engage students. Many researchers have investigated the impact of use of humor in teaching in face-to-face environments (Aylor & Opplinger, 2003; Bryant & Zillmann, 1988; Conkell, Imwold, & Ratliffe, 1999; Davies & Apter, 1980; Downs, Javidi, & Nussbaum, 1988; Frymier & Wanzer, 1999; Frymier & Weser, 2001; Gorham & Christophel, 1990; Kaplan & Pascoe, 1977; Sadowski & Gulgoz, 1994; Wanzer, 2002; Wanzer & Frymier, 1999a, 1999b; White, 2001; Hauck & Thomas, 1972; Ziv, 1988). Other research has investigated the impact of instructor use of humor on enhanced quality of the student-instructor relationship (Welker, 1977) and on affective learning (Wanzer & Frymier, 1999a).

Baumgartner and Morris (2008) showed humor-based teaching is clearly more interesting for the students. Jaasma and Koper (1999) found that instructor use of humor in teaching was superior as a predictor for formal and informal out of class communication between instructors and students, and make these communication more exciting for students. Milem and Berger (1997) found a positive relation between students' out of class communication with their instructors and their academic integration. Instructor use of humor reduces physical and psychological distance with students in the classroom (Andersen, 1979), which make humor communication excite

the student curiosity. Instructor immediacy resulting from the use of humor has been positively associated with student engagement (Christensen, Curley, Marquez, & Menzel, 1995; Menzel & Carrell, 1999).

Recent research has distinguished between appropriate and inappropriate use of humor (Wanzer, Frymier, Wojtaszczyk, & Smith, 2006). Wanzer et al. (2006) identified four different categories of appropriate instructor use of humor (i.e., related humor, unrelated humor, self-disparaging humor, and unplanned humor), similar to those identified in prior research (Bryant et al., 1979; Downs et al., 1988; Gorham & Christophel, 1990). Four other broad categories of inappropriate instructor humor were identified and labeled as offensive humor, disparaging student humor, disparaging other humor, and self-disparaging humor (Wanzer et al., 2006). Self-disparaging humor can be used positively as appropriate humor (e.g. instructors telling life stories that may have been embarrassing for them, or put them in an awkward situation), and negatively as inappropriate humor (This type of humor involves a professor criticizing, poking fun of or belittling himself/herself. e.g. professor says, “I am such an idiot!” to the students). (See appendix A for details about Wanzer’s et al. classification of Instructor’s appropriate and inappropriate humor)

Wanzer, Frymier, & Irwin (2010) suggested that the use of appropriate humor related to course material enhances student learning in the classroom. They proposed the Instructional Humor Processing Theory (IHPT) which offers an explanation for why some types of instructor-generated humor result in increased student learning and others do not. IHPT hypothesizes that humor related to instructional content correlates positively with student learning, while inappropriate form does not. However, IHPT

investigated the impact of this humor on student learning in general. In this research we extend IHPT by studying the impact of related and appropriate humor on engagement. Building on IHPT, instructor use of appropriate humor (as defined by Wanzer et al. (2006)) via a course-based social network is expected to have a positive impact on student engagement in this course-based social network.

H3: Instructor use of humor via a course-based social network will have a positive impact on the student engagement in the course-based social network.

3.3 Credibility and Engagement

Instructor credibility is defined as the extent to which an instructor is considered to be believable, trusted by students, concerned about student welfare, and knowledgeable about a given subject matter (McCroskey, 1998). Teven and Hanson (2004) argue that an instructor who is perceived as a credible source is more likely to relate well with students, and to improve their educational outcomes. Scholars have noted that instructors who used behaviors to improve the clarity of the information presented to the student, do engage students while presenting course content (Downs et al., 1988). Methods viewed by students as a way to humanize instructors, make instructors appear approachable, and create affect for both the course and the instructor, can be used by the instructor to engage students (Nunziata, 2007).

Credibility has been consistently related to positive affect for both the subject matter and instructors, and state motivation to learn (Frymier, 1994; Gorham, 1988). Affect toward instruction is a state of psychological and emotional arousal toward the instructor (Bloom, Englehart, Furst, Hill, and Krathwohl, 1956). Affect is positively associated with students' motivation and learning (Rodriguez, Plax, & Kearney, 1996).

Students who have higher levels of affect generally exhibit approach behaviors toward the source of arousal and, as a result, are more engaged (Titsworth, 2001).

Short, Williams, and Christie (1976) presented social presence theory. Social presence is described as the feeling that the group members communicate with people instead of impersonal objects. Baker (2010, p. 5) argued “when communication channels are restricted, social presence decreases within a group. When social presence is low within a group, group members often feel disconnected and cohesion levels are low. When social presence is high, however, each group member has the feeling of joint involvement”. This suggest when instructor communicates with student via a course-based social network, if instructor’s credibility is perceived as high by students, instructor’s social presence will be perceived as high by students; and students will be more engaged in this course-based social network.

In face-to-face environments, instructors must be seen to be perceived as present (Picciano, 2002). In online environments, however, for the instructor to be perceived as present requires actions. Examples of these actions include, developing consistent patterns of interaction, communicating accessibility, providing consistent and substantive feedback, moderating discussions effectively, and providing content expertise through discussion posts to restart stalled discussions (Arbaugh and Hwang, 2006). These actions represent instructor social presence in online communication, and expected to have a direct impact on student engagement. These actions are more likely to be taken by the instructor who is perceived as highly credible.

H4: Instructor Credibility will have a positive impact on student engagement in a course-based social network.

3.4 Engagement and Educational Outcomes

Engaging systems have been described by users as: enticing users (Mayes, 1992); drawing users into the activity (Laurel, 1991); and seducing and spurring users on (Skelly, 1991). When asked by Jacques et al. (1995) what engagement meant to them, users considered it to be a positive, interactive state, in which their attention was willingly given and held. They described their feelings when interacting with engaging software as “curiosity, interest, confidence, and surprise”. Users are engaged in a system when it “holds their attention and they are attracted to it for intrinsic rewards” (Jacques et al. 1995, p. 58). Engaged users enjoy the activity or product, which may make them want to prolong the activity (Sandelands, 1988) or use the product again (Jordan, 1998).

Engagement is similar to flow, a state representing the extent of pleasure and involvement in an activity (Csikszentmihalyi, 1975). In the organizational behavior literature, employee engagement has been found to generate heightened morale, cohesion, job satisfaction, organizational commitment, citizenship behaviors, customer evaluations, reduced absenteeism, and consequently improved financial performance (Harter, Schmidt, & Hayes, 2002; Saks, 2006; Salanova, Agut, & Peiro´, 2005). In a course-based social network, student engagement is a critical factor for student positive development (Casalo, Flavia, & Guinali, 2007; Koh and Kim, 2003). In higher education, student engagement has been defined as “how involved or interested students appear to be in their learning and how connected they are to their classes, their institutions, and each other” (Axelson & Flick, 2011, p. 38). Student engagement is a desired behavior (Rocca, 2001), because it tends to improve student outcomes.

Engagement in a face-to-face classroom environment has been demonstrated to be a positive indicator of educational outcomes. However, engagement in a course-based social network, like a Facebook page for a course, is a more controversial issue. Interaction between instructors and students online via Facebook has spurred debate regarding its benefits and potential risks to students (Nixon, 2011). It has the potential to provide for rich communication between students and instructors, but it is also a source of other types of communication that may negatively affect educational outcomes. Consequently, engagement in the Facebook IT artifact, rather than engagement in face-to-face classroom environment, and its impact on the educational outcomes is an area that needs more research. Specifically, this research examines two educational outcomes: motivation to learn, and satisfaction with learning.

3.4.1 Impact of Engagement on Motivation to Learn. Past research indicates that motivation to learn is a robust predictor of course outcomes and is influenced by both individual and situational characteristics (Colquitt, LePine, & Noe, 2000; Noe, 1986; Tannenbaum & Yukl, 1992; Noe & Schmitt, 1986; Quinones, 1995). Bothun (1998) argues that the quality of learning depends on the student's level of motivation. Students who perceived their instructor as communicating clearly and relevantly, and willing to interact outside of class time reported greater motivation (Chesebro & McCroskey, 2001; Jaasma and Koper, 1999). Course-based social networks provide students with the chance to know more about their instructor. When students know more about their instructor, they often express greater course motivation and view the classroom climate more positively (Mazer, Murphy, & Simonds, 2007). Research by Gorham and Millette (1997) suggests that student motivations can be sustained and diminished via classroom social

communication. Allen, Witt, & Wheelless (2006) suggest that competent instructors select and employ more innovative types of communication to engage students with the expectation that students will respond favorably.

Gorham (1988) and Dickmeyer (1993) found that instructor behaviors that engage students, created a more immediate (enjoyable) classroom environment, which is conducive to learning. Research also suggests that an immediate classroom environment is likely to enhance student motivation to learn (Aylor & Opplinger, 2003; Downs et al., 1988; Gorham & Christophel, 1992), this is because immediate classroom environments engage students more in their classes. Parrott (1994) asserts that communication types that engage students can be used as a teaching strategy; it can promote understanding and increase attention and interest. Accordingly; it is hypothesized:

H5: Engagement in a course-based social network will have a positive impact on the student's motivation to learn.

3.4.2 Impact of Engagement on Satisfaction with Learning. Student satisfaction refers to the degree to which students are satisfied about interactions with an instructor (Frymier, 2005). Researchers have found that instructor behaviors, that engage students, lead students to perceive instructors as clear (Wambach & Brothen, 1997) and make them more satisfied with the course and the instructor. Goodboy (2009) found a positive relationship between the instructor clarity and student satisfaction. Research by Opplinger (2003) and Martin (2007) found that presenting educational materials in an engaging manner, including using tools that students like and use in their everyday life, arouses positive emotions that become associated with learning. This leads to more positive attitudes towards education. Accordingly; it is hypothesized:

H6: Engagement in a course-based social network will have a positive impact on the student's satisfaction with learning.

3.5 Time Spent in the Online Social Network

Moore's transactional distance theory (Moore, 1973; Moore and Kearsley, 1996) provides an explanation for why the use of online communication tools may encourage interactions among students and the instructor in an online environment. Moore (1973) asserted that the physical separation in distance education leads to a potential misunderstandings and communication gap between the instructor and the student; however, increasing the time spent by student in the online social network decreases this gap. The setting for Moore's transactional distance theory is distance education; however, it suggests that increasing the interaction time between instructor and students, by utilizing advances in online communication tools, like Facebook, may bridge the distance between students and the instructor in an online environment, which impacts the student engagement.

In online settings, students are more likely and have more opportunity to spend more time interacting with the classmates and the instructor than they do in a classroom. Social network tools can be used to increase the level of interaction, thus allowing students and instructors to reduce the psychological and physical distance between them and to foster psychological closeness through interactions more than those offered by face-to-face setting (Lemak, Shin, Reed and Montgomery, 2005).

Impact of instructor credibility on engagement is also expected to be moderated by the amount of time spent in the online social network. Studies have revealed that

“relational satisfaction increases as people spend more time on-line and the number of messages helps to provide more information about one's relational partner” (Wright, 2000, p 45). This suggests that the more time students spend in an online social network, the more messages they are exposed to and thus, the more information they have about their instructor. This will enhance the impact of credibility on engagement.

We hypothesized that the type of communication used by the instructor; self-disclosure and use of humor, via a course-based social network, and instructor credibility have an impact on engagement in course-based social networks. However, building on Moore's transactional distance theory, the level of engagement students will experience will be influenced by the amount of time they typically spend interacting in the online social network. Thus it is hypothesized that the impact of self-disclosure, humor, and instructor credibility on student engagement in a course-based social network will be moderated by the amount of time the student typically spends in that online social network.

This suggests that students who spend more time interacting in the online social network are more likely to be exposed to the instructor communication and engage with it than students who spend less time in the online social network. Similarly, students are more likely to engage with instructor that they perceive to be credible. But, the underlying factors influencing credibility, believability, trustworthiness, concern about student welfare, and subject matter knowledge (McCroskey, 1998), all can be influenced by the students' interaction with the instructor over time. Thus, a student who spends more time interacting in the online social network is expected to be more engaged when he/she perceives the instructor as more credible comparing to another student who spends

less time interacting in this online social network. In summary, the relationships between the three independent variables (self-disclosure, humor and instructor credibility), and the dependent variable (engagement) are expected to be stronger when the student spends more time interacting in the online social network.

H7a: The impact of self-disclosure about topics related to the course on student engagement in a course-based social network will be stronger when the student spends more time in the online social network.

H7b: The impact of humor on student engagement in a course-based social network will be stronger when the student spends more time in the online social network.

H7c: The impact of instructor credibility on student engagement in a course-based social network will be stronger when the student spends more time in the online social network.

3.6 Research Model

Figure III.1 represents the research model being tested in the thesis. This study investigates the impact of using self-disclosure and humor via a course-based social network, and instructor credibility on student engagement in this social network, and impact of this engagement on student's perceived educational outcomes, student motivation to learn and student satisfaction with learning.

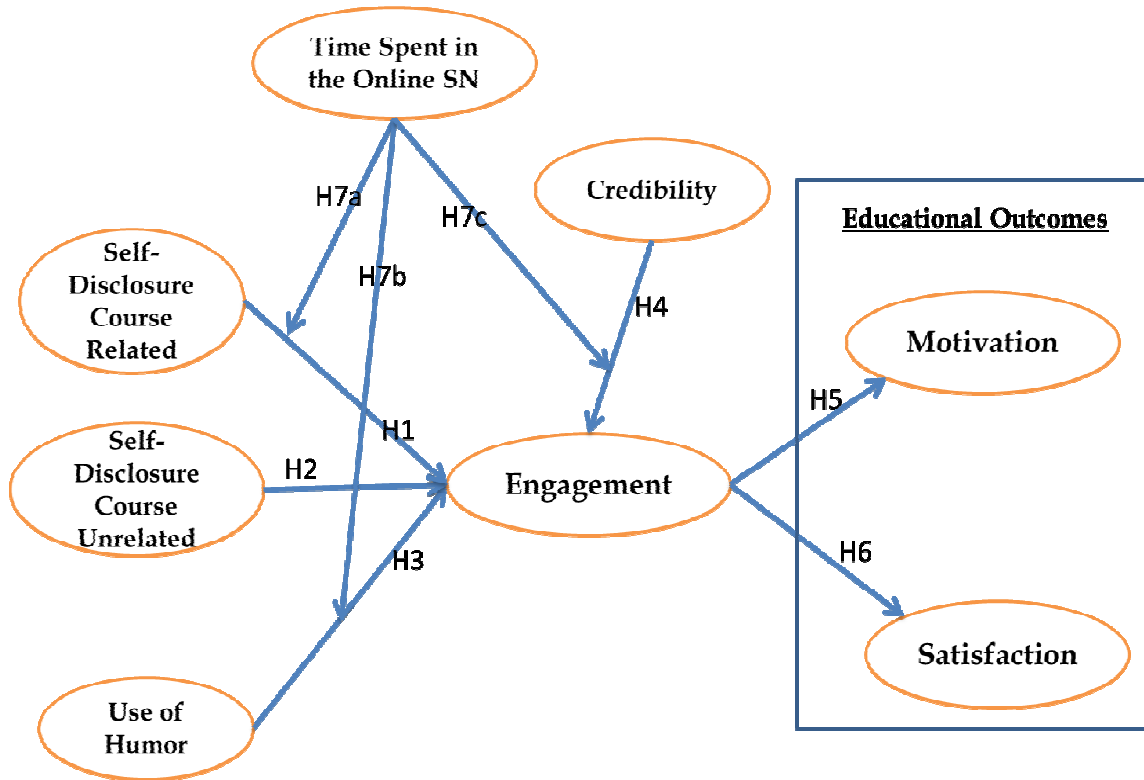


Figure III.1 The Research Model.

To address the research questions posed by this thesis, two studies are conducted. In the exploratory study (Figure IV.2), we conducted a survey to investigate the best combination of communication types (among self-disclosure related interests, self-disclosure unrelated interests and use of humor) that can be used by instructors via a course-based social network to enhance student engagement in this social network. In the main study (Figure V.1), we conduct a semester long experiment where an instructor communicates with a class via a course-based social network (Facebook page or group). The experiment compares a pair of classes with one class receiving Facebook communication that includes instructor self-disclosure and humor along with course related posts, and the other class (the control) receives only course related posts. The difference in the outcomes between the two groups will then be measured utilizing a

survey and measurements of the actual engagement of the students within the course-based social network.

CHAPTER IV

EXPLORATORY STUDY

An exploratory study was conducted in which subjects were asked to read a simulated Facebook page for a specific course, and respond to survey questions related to their perceptions of the instructor self-disclosure and use of humor via this page. The study explores the impact of self-disclosure, via a social network, related to work experience, self-disclosure, via a social network, related to personal issues, and the instructor use of humor, via a social network over and above face-to-face community. One difference between this study and prior studies is the experimental treatment. Mazer, Murphy, and Simonds (2007), for example, operationalized instructor self-disclosure, by disclosing information about the instructor, like photographs and biographical information, on a personal Facebook account and profile. In this exploratory study, the instructor discloses about himself via a Facebook page or group specifically created for the course. This type of self-disclosure is more likely to be perceived as being targeted at the students in the course and, thus, is more likely to be accessed by students. In addition, using Facebook pages and groups allow for posts specifically targeted at the course. Social norms have clearly demonstrated that inappropriate humor, e.g. sexual jokes, is not accepted in classroom, as such only appropriate types of humor (as defined by Wanzer et al. (2006)) were used as a part of this study. Figure IV.1 represents the research model being tested in the exploratory study.

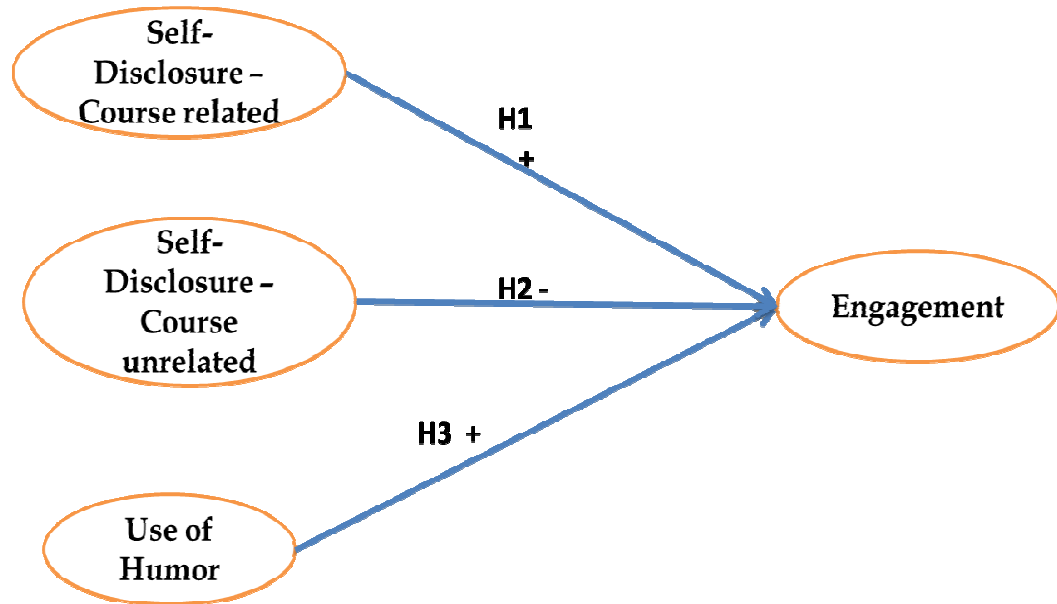


Figure IV.1 The Research Model for the Exploratory Study

4.1 Participants

The participants are undergraduate students, enrolled in an introduction to IS course at a Midwestern University. Students received extra credit for participating in the study; however, students were asked but not required to participate in this study.

4.2 Manipulation

The independent variables in this study; self-disclosure about related work experience, self-disclosure about personal issues, and use of humor via a social network, are manipulated using posts in simulated Facebook pages for a university course, these posts were posted by a fake instructor. We used a fake name for the instructor, so the students are not affected by the real instructor credibility. The Facebook pages include posts representing the different independent variables, along with other posts about course related topics. The page was designed to be similar to a normal Facebook page

that might have been created for the simulated course. (See appendix B for a sample Facebook page used by the study).

4.3 Procedure

There are eight different simulated Facebook pages for the same course, each with a different combination of posts representing the independent variables. The participants are randomly directed to one of these treatments, producing random assignments of the participants to the treatment groups. The different “Facebook page” treatment options are as follow:

Facebook page includes posts containing self-disclosure about related work experience along with course related posts.

Facebook page includes posts containing self-disclosure about personal issues along with course related posts.

- 1) Facebook page includes posts containing humor along with course related posts.
- 2) Facebook page includes posts containing self-disclosure about related work experience and self-disclosure about personal issues, along with course related posts (no humorous posts).
- 3) Facebook page includes posts containing self-disclosure about related work experience, and humor, along with course related posts (no self-disclosure about personal issues).
- 4) Facebook page includes posts containing self-disclosure about personal issues, and humor, along with course related posts (no self-disclosure about related work experience).

- 5) Facebook page includes posts containing self-disclosure about related work experience, self-disclosure about personal issues, and humor, along with course related posts (all of the options).
- 6) Facebook page includes course related posts only (control group).

The total number of posts on each Facebook page is 12 posts, similar to the number of posts initially displayed on a normal Facebook page. At the beginning of the survey, students were asked to read the posts in the simulated Facebook page, and to suppose they are taking the mentioned course with the specific mentioned instructor. Then they were asked to respond to survey questions that measure the outcome variables along with manipulation check questions

4.4 Measurement

The survey instrument was drafted using the literature pertaining to the constructs. The process included an exhaustive review of the related literature to derive the scales items for the constructs. There are four constructs in the exploratory study. Rather than developing new scales to measure these constructs, predefined and established measures that have been validated and utilized in previous research is used in this study. The final questions included in the survey are presented in Table IV.1.

Table IV.1: Measurement items used in the exploratory study

Construct	Items	Source
Self-disclosure related.	<ul style="list-style-type: none"> • My instructor often posts her opinions about current course related events • My instructor often posts about her attitudes toward course related events occurring on campus • My instructor often posts her opinion about course related events in the community 	Cayanus & Martin (2008)

Table IV.1 (con't.)

	<ul style="list-style-type: none"> • My instructor often shares her dislikes and likes related to the course content • My instructor reveals relevant work experience in her posts 	
Self-disclosure unrelated.	<ul style="list-style-type: none"> • My instructor often posts her opinions about current course events unrelated to the course • My instructor often posts about her attitudes toward course unrelated events occurring on campus • My instructor often posts her opinion about course unrelated events in the community • My instructor often shares her dislikes and likes unrelated to the course content • My instructor reveals personal information about herself in her posts 	Cayanus & Martin (2008)
Use of Humor	<ul style="list-style-type: none"> • My instructor posts humor related to course material • My instructor posts funny props to illustrate a concept or as an example • My instructor posts jokes related to course content • My instructor posts humorous story related to course content • My instructor uses language in her posts in creative and funny ways to describe course material • I found that the humor used by the instructor detract from the course experience • The type and amount of humor used by this instructor encourages me to interact (comments/likes) on this Facebook page 	Frymier, Wanzer and Wojtaszczyk (2008)
Engagement	<ul style="list-style-type: none"> • This Facebook page kept me totally absorbed in the browsing • This Facebook page held my attention • This Facebook page excited my curiosity • This Facebook page was fun • This Facebook page was intrinsically interesting • This Facebook page was engaging 	Webster & Ho (1997)

4.4.1 Self-Disclosure. Instructor's Self-disclosure via a course-based social network is measured using Cayanus and Martin's (2008) Instructor Self-Disclosure Scale (Appendix C). Items in the instructor disclosure scale are reworded to reflect instructor self-disclosure about course related or unrelated issues. Example of the items, "My instructor often posts about her attitudes toward course related events occurring on campus". Respondents indicate how well each item applies to their instructor using a seven-point response continuum, ranging from completely disagree (1) to completely agree (7). Negatively worded items were reverse coded in order to have higher scores reflect greater perceived instructor disclosure. Cayanus and Martin (2008) reported an alpha reliability of .80 for "Instructor's Self-disclosure" measure. In the present study, the "Instructor's Self-disclosure" measure had a reliability of 0.90 and .95 for self-disclosure about related issues and self-disclosure about unrelated issues respectively.

4.4.2 Humor. Instructor use of humor via a course-based social network (appendix D) is measured by 7-items measure of instructor appropriate humor developed by Frymier, Wanzer and Wojtaszczyk (2008), based on the appropriate and inappropriate humor behaviors identified by Wanzer et al. (2006). The scale uses a 7-item Likert-type response set ranging from 1 (completely disagree) to 7 (completely agree). Frymier, Wanzer and Wojtaszczyk (2008) reported an alpha reliability of .85 for "use of humor" measure. In the present study, the "use of humor" measure had a reliability of 0.93.

4.4.3 Engagement. Student engagement in the Facebook page is measured by 6-items measure of engagement developed by Webster & Ho (1997) (appendix E). This measure asks participants to report on how much they were engaged in the Facebook course page, and it was used in this study because it measures engagement in IT artifacts

specifically, as this study is interested in engagement in the Facebook page for the course. Responses were solicited using a 7-point Likert scale ranging from 1 (completely disagree) to 7 (completely agree). Webster & Ho (1997) reported an alpha reliability of .92 for “engagement” measure. In the present study, the “engagement” measure had a reliability of 0.92.

4.5 Instrument Validation

A variety of validation checks were performed to assess the appropriateness of the measures used. First, the data were checked for normality and outliers; the results of the check suggested there were no problems regarding normality or outliers in this study. Second, the scale items representing the constructs were assessed for content validity, convergent validity, and discriminant validity.

Content validity represents the verification that the method of measurement actually measures what it is expected to measure. Content validity is subjective and judgmental but is often based on two standards: Does the instrument contain a representative set of measures, and were sensible methods of scale construction used? (Flynn, Sakakibara, and Schroeder, 1995).

In this study, the correspondence between the individual items and the concept that these items are supposed to measure was considered. Several measures were taken to check for content validity:

- The survey instrument was reviewed by a number of reputable individuals to help gauge content validity.

- The questionnaire was pre-tested, using a pilot study, by gathering data from thirty randomly selected participants. These participants were excluded from further analysis.
- Any inconsistencies or ambiguities were subsequently addressed.
- Minor revisions were made to the questionnaire as a result of the pretests.

Convergent validity refers to a situation where items that should be related are in reality related and correlate highly with one another. Correlations between items that belong to the same construct were checked; results showed that convergent validity was achieved.

Discriminant validity refers to a situation where the loading of each item on its respective construct should be higher than its loading on the other constructs in the model. This validity is tested by comparing the average inter-scale correlations to the Cronbach alphas. Cronbach alphas should be greater than the average inter-scale correlations to achieve acceptable discriminant validity (Karimi, Somers, and Gupta, 2001). This was the case for each of our measures in this study.

4.6 Common Method Bias Tests

Two primary ways were used to controlling for method biases; through (a) the design of the study's procedures and (b) statistical controls.

In the design of the study's procedure, some of the techniques recommended by Podsakoff, MacKenzie, Lee, and Podsakoff (2003), to controlling for method biases, were used in this study. First, different response formats were used for the measurement of the study's variable. This should reduce biases in the retrieval stage of the response process by eliminating the saliency of any contextually provided retrieval cues. It should

also reduce the respondent's ability and/or motivation to use previous answers to fill in gaps in what is recalled and/or to infer missing details. Second, procedures were used at the response editing or reporting stage. For example, respondents' answers were allowed to be anonymous. Another example was assuring respondents that there is no right or wrong answers and that they should answer questions as honestly as possible. These procedures should reduce people's evaluation apprehension and make them less likely to edit their responses to be more socially desirable, lenient, acquiescent, and consistent with how they think the researcher wants them to respond (Podsakoff et al., 2003). Third, the following recommendations of Podsakoff et al. (2003) were carefully considered. (a) defining ambiguous or unfamiliar terms; (b) avoiding vague concepts and providing examples when such concepts must be used; (c) keeping questions simple, specific, and concise; (d) avoiding double-barreled questions; (e) decomposing questions relating to more than one possibility into simpler, more focused questions; and (f) avoiding complicated syntax.

It is possible that researcher's using procedural remedies can minimize, if not totally eliminate, the potential effects of common method variance on the findings of their research. However, it is also useful to use statistical remedies that are available to control for common method biases. In this research, two statistical tests were used to test for common method bias. First, we perform Harman's single-factor test twice, once including all independent variables and the dependent variable and the other time including all independent variables. This method loads all items into an exploratory factor analysis with no rotation and with number of factors fixed at 1, to see whether one single factor does emerge or whether one general factor does account for a majority of

the covariance between the measures; if not, common method variances is not considered as a pervasive issue. The first part of Table IV.2 shows results when the all of the variables are included. The first factor explains only 29.385 % of the variance which is not a majority (Greene and Organ, 1973). The econd part of Table IV.2 shows results when the dependent variable is not included. The first factor explains only 32.946 % of the variance which is not a majority (Greene and Organ, 1973). Accordingly, one cannot conclude that common method variance is a concern.

Table IV.2 Part-1: Harman’s single-factor test, Total Variance Explained by one single factor when all of the variables are included.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.877	<u>29.385</u>	29.385	5.877	29.385	29.385

Table IV.2 Part-2: Harman’s single-factor test, Total Variance Explained by one single factor when the dependent variable is not included.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.942	<u>32.946</u>	32.946	4.942	32.946	32.946

Second, as recommended by Padsakoff et al. (2003), we included in the PLS model a common method factor whose indicators included all the principal constructs’ indicators to evaluate the size of common method variance. The procedure we have followed is developed by Liang et al. (2007) and has been used by other authors (e.g.,

Furneaux & Wade, 2011). We calculated each indicator's variances substantively explained by the principal construct and by the method. The results demonstrate that indicator variance attributable to the common method factor range from 0.01% to 8% with an average of 3.2% and a median 2.8%, whereas indicator variance attributable to the underlying construct range from 54% to 81% with average of 70% and a median of 70%. The ratio of variance attributable to the underlying construct to that attributable to the common method factor is about 22:1. Given the small magnitude of method variance, we contend that the method is unlikely to be a serious concern for this study.

4.7 Exploratory Study Results

The experiment was conducted using 402 subjects. Subjects were randomly assigned to one of the eight treatment groups. Demographics are presented in Table IV.3. 93.7% of the subjects were less than 35 years old, and 50.6% of the subjects were male.

Table IV.3 Sample Demographics

Variable	Frequency	Variable	Frequency
Gender		Having Facebook account	
Male	50.6%	Yes	90%
Female	49.4%	No	10%.
Age		Frequency of visiting	
18-24	63.8%	Facebook	31.3%
25-34	29.9%	Not every day	13.4%
35-44	4.7%	Once a day	15.4%
45-55	0.8%	Twice a day	39.8%
55 and older	0.8%	Three or more times a day	
Level of education		University level	
Some College	52%	Freshman	1%
Associates degree	21.3%	Sophomore	15%

Table IV.3 (con't.)

Bachelor's degree	21.7%	Junior	47%
Master's degree	4.3%	Senior	20%
Doctorate	0.8%	Graduate student	18%

To evaluate the hypotheses model Partial Least Squares (PLS) Structural Equation modeling (SEM) method was used. Item loadings, internal consistency, and discriminant validity were used to evaluate the properties of the research model. The loading of each indicator on its construct should have a path weight of at least 0.7 (Hulland, 1999). As can be seen in Table IV.4, all items' loading surpass this threshold.

Table IV.4 Loadings and cross-loadings.

	Engagement	Humor	Self-Disclosure Related	Self-Disclosure Unrelated
Eng_1	0.81	0.34	0.17	-0.10
Eng_2	0.82	0.31	0.29	-0.17
Eng_3	0.89	0.39	0.29	-0.17
Eng_4	0.77	0.39	0.22	-0.07
Eng_5	0.88	0.42	0.28	-0.24
Hum_1	0.35	0.81	0.30	0.09
Hum_2	0.37	0.84	0.24	0.03
Hum_3	0.30	0.78	0.36	0.08
Hum_4	0.41	0.88	0.29	-0.05
Hum_5	0.40	0.83	0.38	0.06
SD1_1	0.22	0.32	0.74	-0.07
SD1_2	0.29	0.32	0.76	0.14
SD1_3	0.23	0.32	0.85	0.19
SD1_4	0.20	0.30	0.79	0.27
SD1_5	0.22	0.19	0.78	0.22
SD2_1	-0.18	0.02	0.14	0.90
SD2_2	-0.15	0.02	0.18	0.90
SD2_3	-0.13	0.12	0.22	0.88

Table IV.4 (con't.)

SD2_4	-0.16	0.02	0.22	0.88
SD2_5	-0.20	0.05	0.10	0.88

Each construct's composite reliability score was used to evaluate internal consistency. The composite reliability scores (leftmost column of Table IV.5) all exceed 0.7 and thus are adequate for each construct (Hair et al, 1998). Discriminant validity evaluating has two parts; firstly, the loading of each item on its respective construct should be higher than its loading on the other constructs in the model, and secondly, the Square Root of Average Variance Extracted (Square Root of AVE) for each construct should be higher than the inter-construct correlations (Agarwal & Karahanna, 2000). In table 4, by comparing the loading of each item on its respective construct to the other cells in the same row, we can see that all items load higher on their respective construct than the other constructs in the research model. Likewise, in Table IV.5, by comparing the constructs' Square Root of AVE on the diagonal to the inter-construct correlations on the other cells, we can see that the Square Root of AVE for each construct is higher than the inter-construct correlations without exception. These two comparisons suggest that the model has good discriminant validity.

Table IV.5 Internal consistency and discriminant validity.

Composite Reliability	Square Root of AVE and inter-construct correlations			
	Engagement	Humor	Self-disclosure Related	Self-disclosure Unrelated
0.92 Engagement	0.84			
0.92 Humor	0.44	0.83		
0.89 Self-disclosure Related	0.30	0.38	0.79	
0.95 Self-disclosure Unrelated	-0.19	0.05	0.19	0.89

The results of the PLS SEM analysis are presented in Figure IV.3. Engagement had an R-Square of .277. This means that 27.7% of the variance in engagement is explained by self-disclosure related interests, self-disclosure unrelated interests, and use of humor via a social network collectively (Agarwal & Karahanna, 2000). The path coefficients between self-disclosure unrelated, humor and engagement were significant at .01, while the path coefficients between self-disclosure related and engagement was significant at .05. As summarized by Table IV.6, all three hypotheses were supported.

Table IV.6: Summary of hypotheses tests.

Hypothesis	Supported
H1: Self-Disclosure Course Related → Engagement	Yes
H2: Self-Disclosure Course Unrelated → Engagement	Yes
H3: Humor → Engagement	Yes

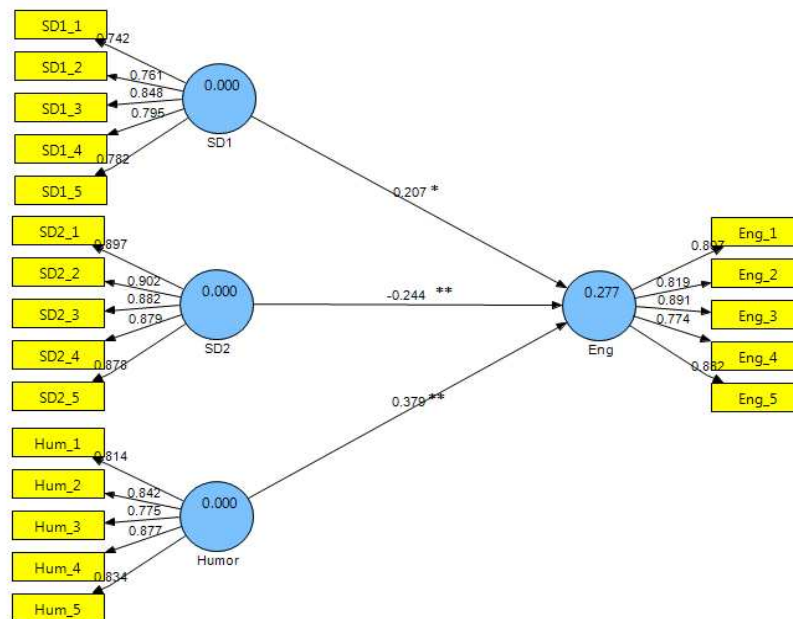


Figure IV.3 PLS SEM Results.

* Significant at .05 ** Significant at .01

CHAPTER V

MAIN STUDY

An experimental study was conducted in which subjects are engaged in a real course-based social network, via Facebook page/group throughout a semester. In this experiment instructors were provided with the chance to publish actual posts related to the independent variables treatment resulted in the exploratory study, self-disclosure about related interests and use of humor. The difference between independent variables among the experimental groups (control and test groups) was measured.

Figure V.1 shows the revised model conducted in the main study. Hypothesis 2 about the negative impact of self-disclosure via course-based social network about unrelated interests on the student engagement was dropped, because the results from the exploratory study indicate that there is a negative impact for self-disclosure via course-based social network about unrelated interests on the student engagement. Consequently, self-disclosure about unrelated interests may detract from learning thus will not be extended to a real class environment. Hypothesis 4 about the impact of instructor credibility on student engagement was added. Hypothesis 4 was not included in the exploratory study, as students did not have a prior vision of credibility for the fictional instructor so it does not fit before engagement in the exploratory study.

One addition to the research model in the main study is examining the impact of engagement on educational outcomes. This addition improves contributions of this research, because it examines the possible impact of the study's variables on the field where this study applied.

Two traditional educational outcomes are examined in this study: student motivation to learn, and student satisfaction with learning. Student motivation to learn refers to student attempts to obtain academic knowledge or skills from classroom activities by finding these activities meaningful (Brophy, 1987). Student satisfaction refers to the degree to which students are satisfied about learning the course content and about interactions with an instructor (Frymier, 2005).

These learning outcomes were chosen for three reasons. First, these variables are traditionally studied as important outcomes in the classroom by instructional communication scholars because they are representative of student achievement. Second, instructor use of communication directly influences these outcomes (Kelley and Gorham, 1988; Richmond, Gorham, and McCroskey, 1987). Third, instructor confirmation (e.g. instructor use of SNS in communication with students) is one positive instruction behavior already associated with student motivation (Ellis, 2000, 2004) and may also be associated with the additional learning outcomes of student satisfaction. Ellis (2000, p. 287) directly advised that future researchers should examine student satisfaction with instructor confirmation behaviors.

The other addition in the revised model is adding three hypotheses about the moderating impact of time spent in the online social network. These three moderating hypotheses were not investigated in the exploratory study, as the students didn't engage in a real course-based social network so we can investigate amount of time they spent interacting online.

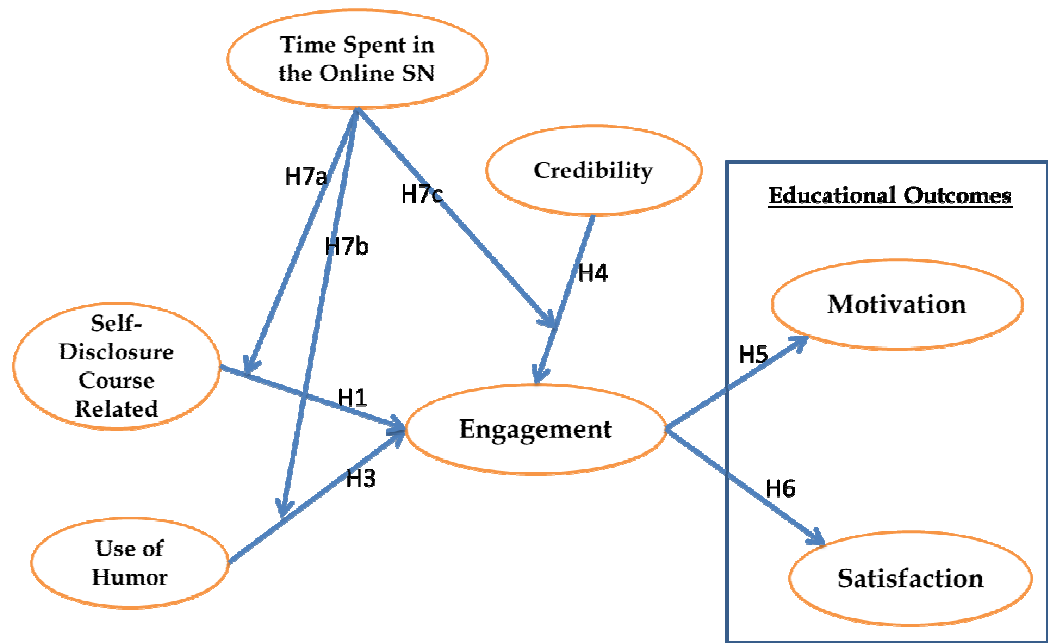


Figure V.1: The Revised Research Model used in the Main Study

5.1 Sample

A sample of 266 undergraduate students enrolled in eight different courses taught by three different instructors at the University of Colorado Denver are used for the main study. Each one of the three instructors has similar number of participants among the control and test groups in order to control for cross course variation. Students were asked but not required to participate in the study and are assigned extra credit for participating in the study. Four of these courses were assigned to the test group; four other courses were assigned to the control group. The experiment utilized pairs of courses taught by the same instructor as the experimental and control conditions to minimize variation in outcomes caused by variation in teaching style or course content. A validation check will be conducted to test if there is any significant difference in the independent variables reported by the participants among the different classes in the control or experimental

groups. This will help determine if there are any systematic biases due to differences in the instructors and classes. If the validation checks indicate the sample is not biased, results should be generalizable to students' population with similar characteristics. Table V.1 explains the courses used in this study.

Table V.1: University courses from which sample drawn from

Course	Number of participants	Instructor	Control/Test Group
Introduction to IS	35	Instructor 1	Test Group
Introduction to IS	31	Instructor 1	Test Group
Introduction to IS	35	Instructor 1	Control Group
Introduction to IS	36	Instructor 1	Control Group
Introduction to IS	35	Instructor 2	Control Group
Introduction to IS	31	Instructor 2	Test Group
Introduction to IS	33	Instructor 3	Control Group
Introduction to IS	30	Instructor 3	Test Group
Total number of participants: 266 / Control group: 139 (47.7%) / Test group: 127 (52.3%)			

5.2 Experiment Design

This study employed an experimental design to investigate the impact of instructor self-disclosure about related interests, instructor's use of humor via course-based social network and instructor credibility on student engagement in this course-based social network, and the impact of student engagement on student perceived educational outcomes. In this experiment there are two groups of participants. In the first

group, the test group, instructors communicated with students by posting private information, about his private experience, but related to the course content, and by posting humorous posts, in addition to course related posts. In the second group, the control group, instructors communicated with students by posting university and course related posts only. Each experimental group participated in the experiment for an entire semester. At the end of the experiment, participants in each group completed a survey that measures the study outcomes. In addition, actual participant engagement within the course-based social network (the Facebook page or group) was collected and recorded.

5.3 Procedure

The independent variables in this study, self-disclosure and use of humor, are manipulated using Facebook posts representing these variables. In the experimental group, participated instructors created Facebook page or group to communicate with the students. Then they posted private information related to the course, in addition to humorous posts. In both experimental and control groups instructors posted announcements and materials related to the course. The Facebook pages or groups are real ones. Students were asked to join this page/group and were encouraged to be engaged in it by making comments, likes, and posts. At the end of semester, a survey was conducted to test for the difference in the outcome variables, engagement and educational outcomes. Actual engagement data was also recorded.

5.4 Measurement

Similar to the exploratory study, the survey instrument was drafted using previously validated instruments. The same measures related to self-disclosure, humor

and engagement, are used in the main experiment as were used in the exploratory study. Table V.2 shows the measures used in the main study. This survey was conducted at the end of the semester. Data about the actual engagement within the test and control groups was also collected from the Facebook pages or groups for post-hoc analysis in this study. This actual engagement data includes data about the number of comments, number of likes, number of posts, and types of posts made by students.

Table V.2 Measurement items used in the main study

Construct	Items	Source
Self-Disclosure related.	<ul style="list-style-type: none"> • My instructor often posts her opinions about current course related events • My instructor often posts about her attitudes toward course related events occurring on campus • My instructor often posts her opinion about course related events in the community • My instructor often shares her dislikes and likes related to the course content • My instructor reveals relevant work experience in her posts 	Cayanus & Martin (2008)
Use of Humor	<ul style="list-style-type: none"> • My instructor posts humor related to course material • My instructor posts funny props to illustrate a concept or as an example • My instructor posts jokes related to course content • My instructor posts humorous story related to course content • My instructor uses language in her posts in creative and funny ways to describe course material • I found that the humor used by the instructor detract from the course experience • The type and amount of humor used by this instructor 	Frymier, Wanzer and Wojtaszczyk (2008)

Table V.2 (con't.)

	encourages me to interact (comments/likes) on this Facebook page	
Credibility	<ul style="list-style-type: none"> • Intelligent/Unintelligent • Expert/Inexpert • Competent/Incompetent • Informed/Uninformed • Stupid/Bright • Trained/Untrained 	Teven and McCroskey (1997)
Engagement	<ul style="list-style-type: none"> • This Facebook page kept me totally absorbed in the browsing • This Facebook page held my attention • This Facebook page excited my curiosity • This Facebook page was fun • This Facebook page was intrinsically interesting • This Facebook page was engaging 	Webster & Ho (1997)
Motivation	<ul style="list-style-type: none"> • Motivated / Un-Motivated • Interested / Uninterested • Involved / Uninvolved • Excited / Not Excited • Looking forward to it / Dreading it 	Richmond (1990)
Satisfaction	<ul style="list-style-type: none"> • Dissatisfied / Satisfied • Displeased / Pleased • Content / Discontent 	Frymier & Houser (1998)

Following are more details about the measures added for the main study.

5.4.1 Credibility. Credibility is measured using Teven and McCroskey's (1997) measure of instructor credibility (Appendix F). The instrument is composed of 5, seven-step semantic-differential scales. It asks participants to evaluate their instructor.

Responses were solicited using a 7-point bipolar adjective scale. Teven and McCroskey's (1997) reported an alpha reliability of .95 for "instructor credibility" measure.

5.4.2 Motivation to Learn. Student's motivation to learn is measured by 5-items measure of student's motivation to learn developed by Richmond (1990) (Appendix G). It asks participants to report on their levels of state motivation toward a specific course and instructor. Responses were solicited using a 7-point bipolar adjective scale. Richmond (1990) reported an alpha reliability of .94 for "motivation to learn" measure. Previous reliability coefficients ranging from .89 to .93 have been reported (Myers & Zhong, 2004; Weber et al., 2005).

5.4.3 Satisfaction with Learning. Student's satisfaction with learning is measured by 3-items measure of student's satisfaction with learning developed by Frymier & Houser (1998) (Appendix H). It asks participants to report on their feelings of satisfaction with their instructor and course. Responses were solicited using a 7-point bipolar adjective scale. Previous reliability coefficients ranging from .92 to .95 have been reported for the summed scale (Frymier, 2005; Frymier & Houser, 1998; Myers & Bryant, 2002).

5.5 Main Study Results

The experiment was conducted using 266 subjects. Demographics are presented in table V.3 97% of the subjects were less than 35 years old, and 54.6% of the subjects were male.

To evaluate the hypotheses model Partial Least Squares (PLS) Structural Equation modeling (SEM) method was used. Item loadings, internal consistency, and discriminant validity were used to evaluate the properties of the research model. The loading of each

indicator on its construct should have a path weight of at least 0.7 (Hulland, 1999). As can be seen in Table V.4, all items' loading surpass this threshold.

Table V.3 Sample Demographics

Variable	Frequency	Variable	Frequency
Gender		University level	
Male	(54.6%).	Freshman	(3.62%).
Female	(45.4%).	Sophomore	(29.93%).
		Junior	(45.07%).
		Senior	(18.42%).
		Graduate student	(2.96)
Age		Level of education	
18-24	(70.7%).	Some College	(65.13%).
25-34	(26.3%).	Associates degree	(22.04%).
35-44	(2.6%).	Bachelor's degree	(11.84%).
45- and older	(0.4%).	Master's degree or higher	(.66%).

Table V.4 Loadings and cross-loadings.

	Credibility	Engagement	Humor	Motivation	Satisfaction	Self-Disclosure
Cred1	0.88	0.44	0.46	0.42	0.32	0.36
Cred2	0.91	0.50	0.48	0.45	0.38	0.41
Cred3	0.88	0.48	0.45	0.41	0.27	0.41
Cred4	0.80	0.40	0.37	0.41	0.25	0.28
Cred5	0.84	0.43	0.38	0.37	0.23	0.38
Eng1	0.41	0.77	0.41	0.40	0.40	0.45
Eng2	0.43	0.85	0.45	0.44	0.43	0.49
Eng3	0.47	0.90	0.48	0.44	0.47	0.49
Eng4	0.46	0.86	0.49	0.41	0.46	0.46
Eng5	0.45	0.88	0.45	0.40	0.43	0.39
Eng6	0.47	0.87	0.49	0.39	0.43	0.45
Hum1	0.36	0.48	0.86	0.32	0.39	0.49
Hum2	0.41	0.47	0.88	0.35	0.37	0.43
Hum3	0.43	0.39	0.81	0.36	0.35	0.45
Hum4	0.47	0.50	0.89	0.43	0.40	0.45
Hum5	0.46	0.44	0.80	0.35	0.34	0.42
Motiv1	0.44	0.42	0.37	0.84	0.35	0.27

Table V.4 (con't.)

Motiv2	0.43	0.39	0.38	0.86	0.37	0.27
Motiv3	0.34	0.40	0.32	0.76	0.24	0.24
Motiv4	0.47	0.47	0.42	0.98	0.39	0.31
Motiv5	0.34	0.37	0.31	0.79	0.36	0.24
SD1_1	0.32	0.40	0.48	0.21	0.35	0.75
SD1_2	0.42	0.46	0.43	0.38	0.36	0.78
SD1_3	0.39	0.41	0.47	0.29	0.37	0.86
SD1_4	0.31	0.44	0.44	0.21	0.33	0.85
SD1_5	0.31	0.45	0.35	0.19	0.29	0.83
Satis1	0.34	0.47	0.42	0.39	0.92	0.41
Satis2	0.31	0.47	0.41	0.37	0.93	0.38
Satis3	0.30	0.48	0.38	0.36	0.92	0.36

Construct's composite reliability scores were used to evaluate internal consistency. The composite reliability scores (leftmost column of Table V.5) all exceed 0.7 and thus are adequate for each construct (Hair et al, 1998). Discriminant validity evaluating has two parts; firstly, the loading of each item on its respective construct should be higher than its loading on the other constructs in the model, and secondly, the Square Root of Average Variance Extracted (Square Root of AVE) for each construct should be higher than the inter-construct correlations (Agarwal & Karahanna, 2000). In table V.4, by comparing the loading of each item on its respective construct to the other cells in the same row, we can see that all items load higher on their respective construct than on other constructs in the research model. Likewise, in Table V.5, by comparing the constructs' Square Root of AVE on the diagonal to the inter-construct correlations on the other cells, we can see that the Square Root of AVE for each construct is higher than the inter-construct correlations without exception. These two comparisons suggest that the model has good discriminant validity.

Table V.5. Internal consistency and discriminant validity.

Composite Reliability		Square Root of AVE and inter-construct correlations					
		Credibility	Engagement	Humor	Motivation	Satisfaction	Self-Disclosure
.94	Credibility	0.74					
.94	Engagement	0.47	0.74				
.93	Humor	0.47	0.49	0.72			
.89	Motivation	0.46	0.46	0.44	0.7		
.95	Satisfaction	0.37	0.48	0.43	0.42	0.85	
.91	Self-Disclosure	0.46	0.48	0.48	0.35	0.41	0.7

The results of the PLS SEM analysis are presented in Figure V.2. Engagement had an R-Square of .427. This means that 42.7% of the variance in engagement is explained by credibility, self-disclosure, and use of humor via a social network collectively (Agarwal & Karahanna, 2000). Motivation had an R-Square of .233. This means that 23.3% of the variance in motivation is explained by engagement. Satisfaction had an R-Square of .259. This means that 25.9% of the variance in satisfaction is explained by engagement. The path coefficients between credibility, self-disclosure, use of humor and engagement were significant at .05, while the path coefficients between engagement, motivation, and satisfaction were significant at .01. Results are summarized by Table V.6, all five hypotheses were supported.

Table V.6 Summary of hypotheses tests.

Hypothesis	Supported
H1: Self-Disclosure Course Related → Engagement	Yes
H3: Humor → Engagement	Yes
H4: Credibility → Engagement	Yes
H5: Engagement → Motivation	Yes
H6: Engagement → Satisfaction	Yes

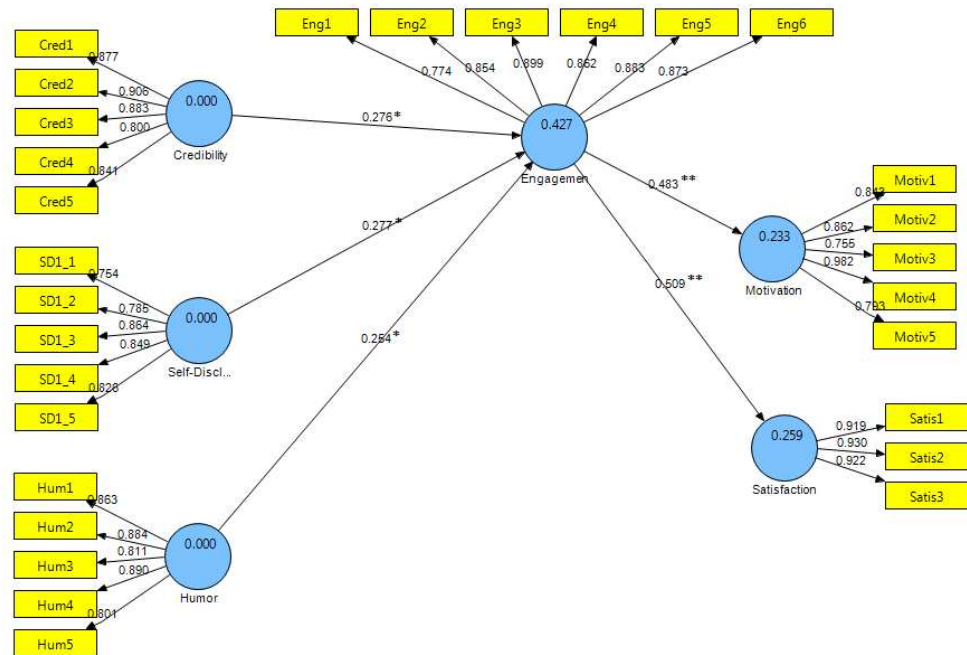


Figure V.2 PLS SEM Results.

* Significant at .05 ** Significant at .01

5.5.1 Moderating Impact of Time Spent in Online Social Networks. To check for the moderating impact of time spent by students in the online social network, we used multi-group moderation. The dataset was split into two parts based on the moderating variable (time spent in the online social network), we checked the model two times, each time with one of the two sub-samples, and then we checked whether there is significant difference between the two results using a t-test.

The first sub-sample included participants who spend little time (low time) in the online social network (less than the average time reported by students in the original sample). The second sub-sample included participants who spent a lot of time (high time) in the online social network (more than 60 minutes per day). We found significant difference between the low and high sub-samples.

Comparing the relationship between self-disclosure and engagement of students that spent little time on the online social networks with those that spent more than 60 minutes per day at the online social network we see a significant difference between these two groups. When students spent little time in the online social network; self-disclosure had an insignificant impact on engagement, Figure V.3. While when students spend a significant amount of time in the online social network; self-disclosure had a significant impact on engagement, Figure V.4. A t-test was used to check if there is a significant difference between these two results. It shows there is a significant difference between the two results; $P < 0.05$. See Table V.7 Thus, hypothesis 7a is supported.

Comparing the relationship between humor and engagement of students that spent little time on the online social networks with those that spent more than 60 minutes per day at online social networks we see a significant difference between these two groups. When students spent less time in the online social network; humor had an insignificant impact on engagement, Figure V.3. While when students spent a lot of time in the online social network; humor had a significant impact on engagement, Figure V.4. When we used a t-test to check if there is a significant difference between these two results we found that there is a significant difference between the two results. $P < 0.05$, table V.8. Thus, hypothesis 7b is supported.

Comparing the relationship between credibility and engagement of students that spent little time on the online social networks with those that spent more than 60 minutes per day at online social networks we see a difference between these two groups, however, this difference is insignificant. When students spent little time in the online social network, credibility had a significant impact on their engagement, Figure V.3. However,

when students were already spending a significant amount of time in the online social network, credibility had an insignificant impact on engagement, Figure V.4. A t-test revealed that there is not a significant difference between the two results. $P = 0.19$, Table V.9. Thus, hypothesis 7c is not supported.

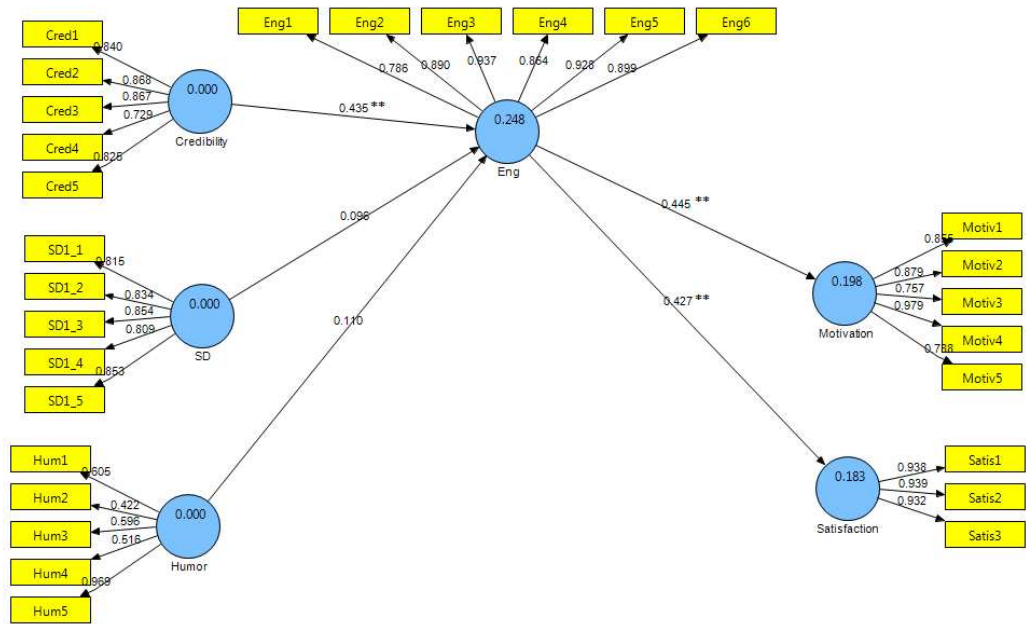


Figure V.3 PLS SEM Results for Low "Time Spent" Group.

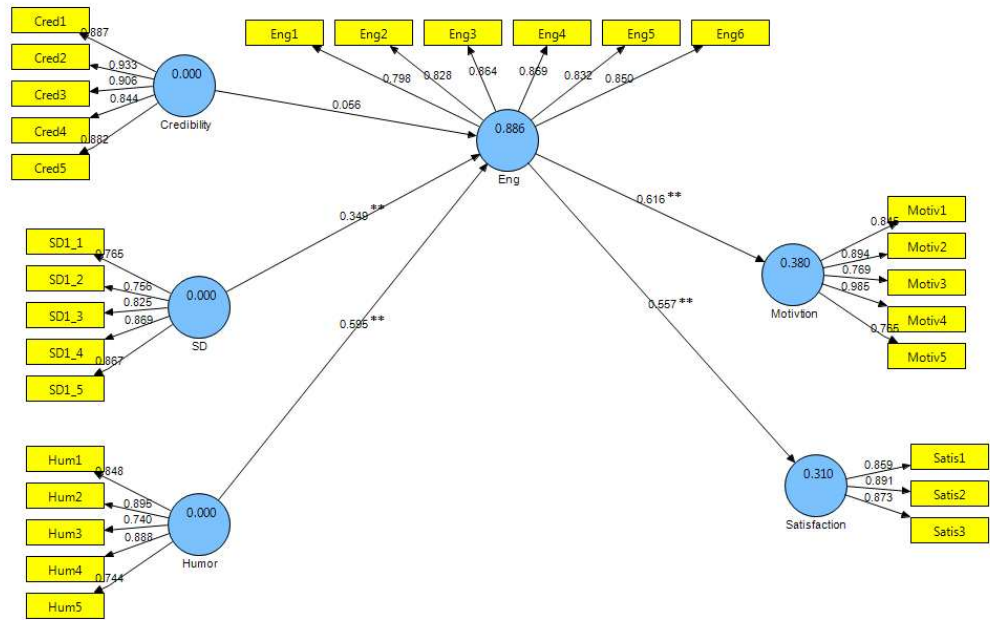


Figure V.4 PLS SEM Results for high “time spent” group.

Table V.7 T-Test Results for Self-Disclosure → Engagement

	Group1 “Low time spent”	Group2 “High time spent”
Sample Size	77	100
Regression Weight	0.096	0.349
t-statistic	2.406	
p-value	0.017	

Table V.8 T-Test Results for Humor → Engagement

	Group1 “Low time spent”	Group2 “High time spent”
Sample Size	77	100
Regression Weight	.11	.595
t-statistic	2.308	
p-value	0.022	

Table V.9 T-Test Results for Credibility → Engagement

	Group1 “Low time spent”	Group2 “High time spent”
Sample Size	77	100
Regression Weight	0.435	0.56
t-statistic	1.315	
p-value	0.190	

5.5.2 Post-Hoc Analysis. Content analysis was used to classify the posts published by the three participated instructor into the posts types presented in Table V.10. Three different categories of posts were defined; self-disclosure about course related interest posts, use of humor posts, and course related posts, as shown in Table V.10. All 112 posts were classified by one of the authors and a graduate student familiar with the use of Facebook in education. The graduate student was provided with the classification scheme, a description of each of the complaint categories, and an example of a post that would correspond to each classification type. Some post examples were used as a training sample to ensure that both coders agreed on the interpretation of the complaint types in ensure that both coders agreed on the interpretation of the post types in Table V.10. Once both coders agreed on the interpretation of the posts’ types, and both are comfortable with the classification scheme, they independently classified the remaining 112 published posts. When the classification was completed, a Kappa value of 0.94 ($p < 0.000$) was computed and used as an index of inter-coder reliability (Cohen, 1960). Since this value exceeded 0.80, the reliability of the coding was deemed acceptable (Grazioli & Jarvenpaa, 2003). After the coders completed the independent coding, they met to discuss each case where they disagreed and selected a mutually agreeable coding.

Table V.10 The Classification Scheme for Posts Categories

Post Category	Description of Post Category	Example
Self-disclosure related interest	When instructor posts private information, but related to the course interest. Like when instructor posts about work experiences related to course.	One of the main tasks I was responsible for in my career was to keep track of all transactions that occur in the business. I used to use Excel to create a “journal” file; we’ll discuss this in the next class
Use of humor	When instructor posts appropriate humorous posts, like jokes and comic arts related to the course.	Whoever is planning to not attend the next exam, please prepare yourself to be as smart as the book author for the makeup exam
Course related posts	When instructor posts course related interests. Like when instructor posts announcement or further course explanations.	Word 2010, like its predecessor, also has a Mini toolbar that will pop up when you select text for editing. This Mini toolbar is a quick and simple means for simple formatting and editing

After classifying all of the published posts, actual students’ engagement data, represented by number of likes and comments made by them, will be assigned each published post in a data point for the content analysis in the post hoc analysis, however number of likes and comments is divided by the number of students who joined the course-based social network to be standardized.

The post hoc analysis focuses on two different comparisons. First, a comparison of the average engagement per course-based social network will be considered to determine if students demonstrate more actual engagement in courses that include posts that contain instructor personal information and humor than the courses that only posts about course related topics. Second, within the courses a comparison of engagement activity will be measured across the different types of posts to determine which type of

post generates the most engagement. The post hoc analysis also provides additional validation for the results found in the survey.

Table V.11 and Figure V.5 show a comparison of average students' engagement represented by number of likes and comments made by students per course-based social network. Table V.12 and Figure V.6 show a comparison of average students' engagement represented by number of likes and comments made by students per experimental group (test and control groups) by combining the courses that belong to the same experimental group. Table V.13 and Figure V.7 show a comparison of average students' engagement represented by number of likes and comments made by students per post type (self-disclosure, humor, and course posts).

Table V.11 Average engagement per a course-based social network

	# of Likes	# of Comments
Control 1	4%	1%
Control 2	2%	1%
Control 3	1%	0%
Control 4	1%	1%
Test 1	32%	9%
Test 2	16%	3%
Test 3	22%	2%

Table V.12 Average engagement per an experimental group

	# of Likes	# of Comments
Control	2%	1%
Test	23%	5%

Table V.13 Average engagement per post type

	# of Likes	# of Comments
Self-Disclosure	34%	6%
Humor	33%	8%
Course	6%	2%

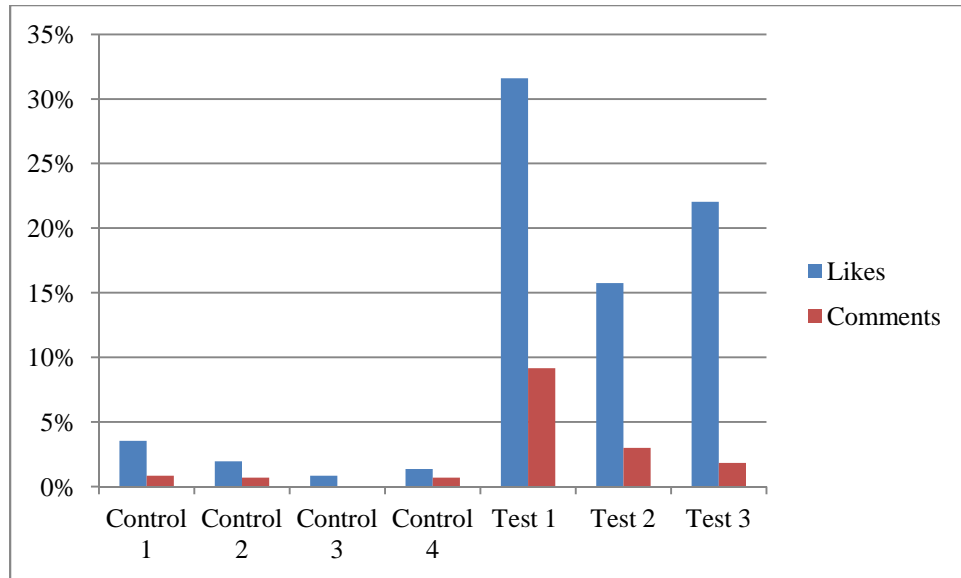


Figure V.5 Average Engagement per Course-Based Social Network

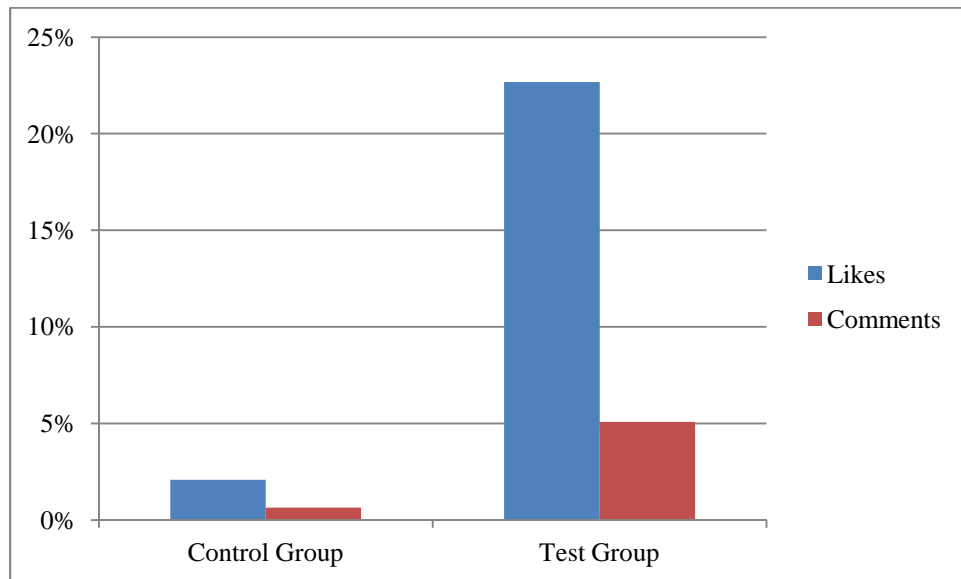


Figure V.6 Average Engagement per Experimental Group

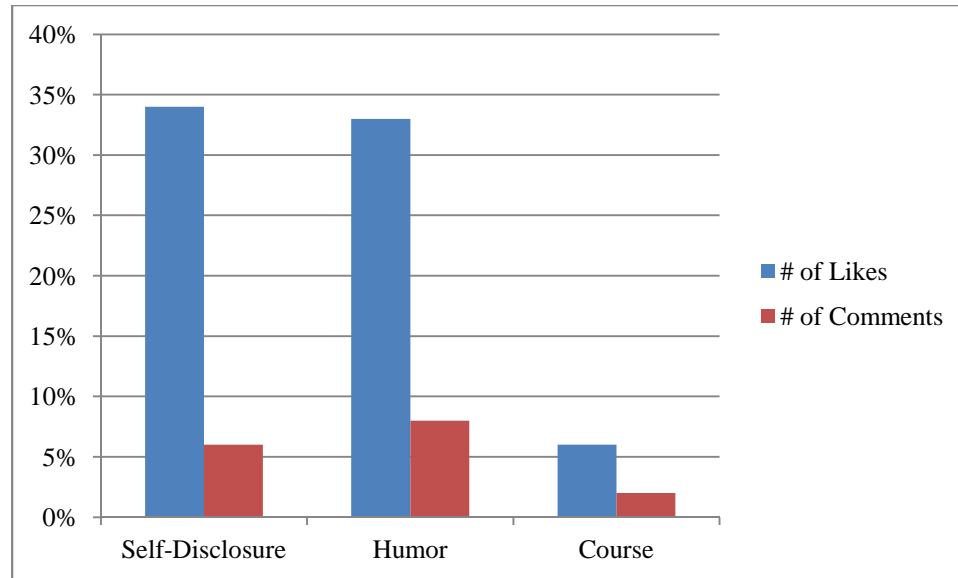


Figure V.7 Average Engagement per Post Type

5.5.3 Control Variables. We then checked for the following control variables: Teaching style (online course vs. offline course); the instructor (instructor 1, 2, and 3); time of experiment (spring 2012 vs. fall 2013); and gender (male vs. female).

To check for the impact of the control variable “teaching style”, we used multi-group moderation. The dataset was split into two parts based on the control variable (teaching style, online course and offline course); we checked the model two times, each time with one of the two sub-samples. We then compared the results for students in the offline courses, with those in online courses. In both groups all of the hypotheses were supported. A t-test was used to check if there are any significant differences between these two results. It shows there are no significant differences between the two groups. Thus, there is no concern that the control variable “teaching style” has a significant interaction effect on the model.

To check for the impact of the instructor on the results, we used multi-group moderation. The dataset was split into three parts based on the instructor; we made three

comparisons. We compared instructor 1 with instructors 2 and 3 combined; we compared instructor 2 with instructors 1 and 3 combined; and we compared instructor 3 with 1 and 2 combined. In each one of these comparisons, we ran the model twice, each time with one of the two sub-samples. In all of the groups all of the hypotheses were supported. A t-test was used to check if there are any significant differences between these two results. It shows there are no significant differences between the two groups. Thus, there is no concern that the instructor has a significant interaction effect on the model.

To check for the impact of the control variable “experiment time”, we used multi-group moderation. The dataset was split into two parts based on the control variable (experiment time, spring 2012 and fall 2013); we checked the model two times, each time with one of the two sub-samples. We then compared the results for students in the spring 2012, with those in fall 2013. In both groups all of the hypotheses were supported. A t-test was used to check if there are any significant differences between these two results. It shows there are no significant differences between the two groups. Thus, there is no concern that the control variable “experiment time” has a significant interaction effect on the model.

To check for the impact of the control variable “gender”, we used multi-group moderation. The dataset was split into two parts based on the control variable (gender, male and female); we checked the model two times, each time with one of the two sub-samples. We then compared the results for male students, with female student. In both groups all of the hypotheses were supported. A t-test was used to check if there are any significant differences between these two results. It shows there are no significant

differences between the two groups. Thus, there is no concern that the control variable “gender” has a significant interaction effect on the model.

CHAPTER VI

DISCUSSION

The results of this study indicate that the hypotheses model is supported. There is a positive impact for instructor credibility, instructor self-disclosure, via a course-based social network, about related topics, e.g. related work experience, and instructor use of appropriate humor, via a course-based social network, on student engagement in this course-based social network. There is a negative impact for instructor self-disclosure, via a course-based social network, about unrelated topics, on student engagement in this course-based social network. There is a positive impact resulting from student engagement in a course-based social network on student motivation to learn, and on student satisfaction with learning.

In addition, we found a moderating impact of time spent in the online social network by student on the relationship between self-disclosure and engagement. Meaning, as the student spends more time interacting in the online social network, the impact of self-disclosure on engagement will be stronger. We also found a moderating impact of time spent in the online social network by student on the relationship between humor and engagement. Meaning, as the student spends more time interacting in the online social network, the impact of humor on engagement will be stronger. However, we didn't find a moderating impact of time spent in the online social network by student on the relationship between credibility and engagement as hypothesized in hypothesis 7c. The results of the two part study are summarized in Table VI.1.

Table VI.1 Summary of Hypotheses Tests.

Hypothesis	Study	Supported
H1: Self-Disclosure Course Related → Engagement	Both	Yes
H2: Self-Disclosure Course Unrelated → Engagement	Exploratory	Yes
H3: Humor → Engagement	Both	Yes
H4: Credibility → Engagement	Main	Yes
H5: Engagement → Motivation	Main	Yes
H6: Engagement → Satisfaction	Main	Yes
H7a: Time Spent → (Self-Disclosure → Engagement)	Main	Yes
H7b: Time Spent → (Humor → Engagement)	Main	Yes
H7c: Time Spent → (Credibility → Engagement)	Main	No

This research confirms findings from prior studies, which found that when instructors disclose private information about themselves, like photographs and bibliographies; it positively affects educational outcomes. However; this study finds the impact differs depending on the type of information that is disclosed. For example, when the instructor posts about work experience related to course related concepts and content it has a completely different effect than when the instructor posts about unrelated personal issues, e.g. the instructor's beliefs or life events and plans. This suggests the later type of information distracts from the academic environment of the course.

This study also demonstrates that instructor use of humor via a course-based social network group has a positive impact on student engagement in this course-based social network group. This suggests that use of humor via a social network supports the

instructor-student relationships and removes barriers between them. The results of this study also help to clarify contradictory results about the impact of using humor in educational environments. While some prior research has found that humor can be used appropriately in the classroom to enhance learning and student perceived learning outcomes (e.g. Gorham and Christophel, 1990), other research has demonstrated a negative impact of humor on learning (e.g., Harris, 1989; Stuart & Rosenfeld, 1994; Torok, McMorris, & Lin, 2004; Ziv, 1988). This study demonstrates that use of appropriate humor (humor that conforms to the standards outlined in Wanzer's classification) does enhance engagement and hence perceived educational outcomes when an instructor is communicating with students via a course-based social network.

These results also demonstrate that the time a student spends in the online social network moderates the impact of communication types used by the instructor (instructor self-disclosure and use of humor) on the student engagement. When spending more time interacting in the online social network, the student will be more exposed to the instructor posts related to self-disclosure and humor; consequently, this student's engagement will be more impacted by these posts, compared to another student who spends less time in the online social network.

Instructor credibility also has a positive impact on engagement; credibility brings more reason for students to get engage to begin with. However, after spending more time in the online social network the student could figure out that the instructor is less or more credible. Accordingly, the impact of credibility on engagement could be stronger or weaker depending on the amount of time spent, and we found it to be weaker; however not significantly weaker. We found that the impact of credibility on engagement is

always significant whether spending low or high amount of time in the online social network.

6.1 Theoretical Contribution and Implications to Research

This paper contributes to IS research by deepening our understanding of student engagement in course-based social networks by conceptualizing an engagement model that supports use of online social network systems for engaging students. The proposed model demonstrates that engagement is an important factor when studying more interactive communication-based systems like online social network systems. Moreover, this research provides new determinants that impact student engagement in a course-based social network, self-disclosure and use of humor. These factors can be utilized by IS researchers to study the antecedents and consequences of different types of communication content and understand the relationships between these communication types used via a course-based social network and engagement in this course-based social network.

Results of this study build on the communication privacy management theory (Petronio, 2002) to expand our understanding of types of private information that might be the most beneficial and pose the fewest risks in professional settings like college classrooms. Communication privacy management theory stated that there is tension between the decision to disclose or to conceal private information; because self-disclosure has both benefits and risks. However, the theory didn't explain what factors make self-disclosure associated with benefits or with risks. This research extended communication privacy management theory by examining the impact of self-disclosure type and relevance on the risks and benefits of that disclosure. We defined two types of

self-disclosure based on its relevance to the course-based social network; self-disclosure related to the course topics, and self-disclosure unrelated to the course topics. We found that the related self-disclosure is associated with benefits of the this self-disclosure and has a positive impact on engagement, while the unrelated self-disclosure is associated with risks of the this self-disclosure and has a negative impact on engagement. This would help to understand how to maximize the benefits of self-disclosure, minimize the risks of self-disclosure, and to take the decision the decision to disclose or to conceal private information.

The research also contributes to the instructional humor processing theory. It expands our understanding of the instructor use of humor, via a course-based social network, and its impact on the student engagement. The theory stated that the instructor use of appropriate humor, related to the course material, correlates positively with student learning. This research expanded the instructional humor processing theory, by examining the impact of the instructor use of appropriate humor, related to course material, on the student engagement specifically. This research also expanded the IS theory by utilizing Wanzer's classification of appropriate and inappropriate instructor use of humor. This assist in confirming that instructor use of humor that we used in this research is the appropriate type of humor.

The research also contributes to theory by providing an engagement model that is unique to online educational setting, by utilizing Moore's transactional distance theory, to study the moderation impact of time spent by student in the online social network. Moore's transactional distance theory asserts that the physical separation in distance education leads to a potential misunderstandings and communication gap between the

instructor and the student. However, the theory stated that increasing the time spent by student in the online social network decreases this gap. Our research expanded Moore's transactional distance theory, by finding that the instructor-students communication, via a course-based social network, provides the student with the opportunity to spend more time to interact in the online social network; because in online setting, students are more likely and have more opportunity to spend more time interacting with the classmates and the instructor than they do in a classroom. That reduces the psychological and physical distance between them and foster psychological closeness through interactions more than those offered by face-to-face setting. This also bridges the distance between students and the instructor, increasing student engagement. Accordingly, we found that increasing the time spent by students in the online social network moderates the impact of instructor use of different communication types (instructor self-disclosure and use of humor) on engagement. The student perception of the instructor use of these communication types and its impact on engagement varied just because of the amount time the student spends online.

6.2 Implications to Practice

Faculty members in higher education institutions can use the results of this research to improve student engagement, and hence, improve students' perceived educational outcomes. This study provided guidance about what content is appropriate to be posted in social networks, like Facebook, and what content is not appropriate. In a changing world where the line between social and professional communication is increasingly blurred, this guidance is essential. For example, some instructors have been known to "friend" their students via personal social network sites like Facebook

(Rutledge, 2011). Results of this study suggest that this practice might not be appropriate if the instructor also uses the Facebook profile page to post personal information to family and friends. This research does not suggest that instructors should avoid social network sites like Facebook. Instead, it suggests that instructors should create pages or groups targeted to their students and use those pages or groups to send a clear message to students that they care about them, and they are interested in fostering a positive relationship with them.

When instructors interact with students via Facebook, students have the opportunity to use technologies they already use in everyday life, in the classroom. This provides them with new and more accessible resources to enhance their class knowledge, improve their relationships with their instructors, and positively impact their perceived educational outcomes, like their motivation to learn and their satisfaction.

These research results, about the importance of social contact between instructor and students outside of the classroom (e.g. in Facebook groups), has also implications for designers of learning management systems. Designers of learning management systems should try to facilitate posting of content on social sharing platforms beside the learning management systems. Other solution could be by supporting the learning management systems ability to include content directly from those social network sites inside the learning management systems itself. This will improve the ability of these learning management systems to improve student engagement and student educational outcomes.

6.3 Limitations and Future Research

Three types of online communication have been studied as a part of this research: self-disclosure about related work experience, self-disclosure about unrelated personal

issues and the use of humor. However; only two levels of each factor have been used, treatment or no treatment (e.g., use humor vs. no humor). There may be an optimum amount of each type of message to use when communicating in online social networks, for example, a little humor may improve outcomes, but too much may have negative consequences. Future research could replicate this study with more groups and additional factor levels to help capture the impact of different amounts of these factors on student outcomes.

The Facebook simulated pages treatment used in the exploratory study may not adequately represent the independent variables effect that a longer and deeper experiment can provide. In the exploratory study, engagement in a course-based social network is measured by asking the participants about their expected engagement. However, our longer experiment provided the opportunity for recording and measuring the actual engagement in the course-based social network by noticing the student interaction rate on an actual course-based social network. This guaranteed a higher level of internal validity where the impact on the outcomes measures comes only from the treatment factors.

This research can also be extended by investigating appropriate types of communication outside the higher-education domain. Today, 90% of firms are using social networks as a part of their online marketing efforts (Stelzner, 2011). Future research can help improve their understanding of how to engage their customers around their products, services and brands, and increase customer loyalty. Future research can build on results of this study to increase the confidence of firms that are not already using online social networks for engaging customers. Moreover, providing a future model that can be used to understand customer engagement in online social networks can facilitate

deep and enduring affective bonds between customers and suppliers in the firm-hosted social networks. This can supports a variety of organizational activities beyond marketing like customer relationship management (CRM), the innovation process for products, and the recruitment of talent for these firms.

Finally, communication in virtual teams is another area where this research can be applied. Virtual team leaders typically have less direct control over team members that are working from different locations. Future research can help the virtual team leader to engage members of the team more in their tasks, and motivate them to be more cooperative. This should allow members to have better relationships with each other, which can increase collaboration and improve outcomes for the team.

6.4 Conclusions

Online social networks are increasingly being used in different fields. In higher education, students and faculty members have begun to realize the benefits that can be achieved when adopting online social networks like Facebook in the classroom. However, little is known about the types of communication that can best be used via an online social network to enhance engagement among members of this online social network.

This research enhances our knowledge about the use of Facebook in classrooms, by investigating how instructors can use such a technology to engage the students, and advance their perceived educational outcomes. It demonstrates that it is not sufficient to simply communicate with students. How you communicate and what you disclose also has a tremendous impact on student outcomes.

The thesis included two studies. The first study involves an exploratory study that utilizes a survey to investigate the best combination of communication types (among self-disclosure related interests, self-disclosure unrelated interests and use of humor) that can be used by instructors via a course-based social network to engage students in this network. The second study involves a real-world experiment. In this experiment study, we started with the results from the exploratory study about the best combination of communication types that can be used to engage students, we added the instructor credibility that can affect the student engagement, the educational outcomes that can be affected by the student engagement, and the time spent by the student in the online social network that moderates the research hypotheses, to the research model in the experiment study. Then we conducted an experiment, where an instructor communicates with students via a real course-based social network for an entire semester.

The thesis investigated the communication types used by the instructor via a course-based social network, because we found that the type of communication has a direct impact on relationships building and development. Building on the literature and the use of course-based social networks in practice, we investigated self-disclosure, both related and unrelated to the course, and use of humor, as types of communication that can be used by instructor when communicating with students via a course based social network. We found that, self-disclosure that is related to the course content, and use of humor, are positively impact the student engagement in a course-based social network. Self-disclosure that is unrelated to the course content, however, found to have a negative impact on student engagement. The research also investigated the instructor credibility, and its perception in an online setting. Building on social presence theory, we

hypothesized that instructor credibility has a positive impact on student engagement, and this was supported by this research.

The thesis investigated student engagement in a course-based social network as the central theme in research surrounding social network use. It also investigated the impact of this engagement on student educational outcomes, student motivation to learn, and student satisfaction with learning. These outcomes are traditionally studied as important outcomes in the classroom by instructional communication scholars because they are representative of student achievement.

The thesis study found that studying engagement in online settings specifically is essential. Relying on the current research about engagement in face-to-face setting is not sufficient when investigating engagement in online social networks. The main difference between the two settings is the amount of time that the student can spend interacting in the online social network. Accordingly, we investigated the moderating impact of time spent by student in the online social network. In this thesis, time spent by student in the online social network was found to significantly moderate the impact of communication types used by the instructor in a course-based social network on student engagement in this network. The impact of instructor self-disclosure on student engagement found to be significantly stronger for students who spent more time in the online social network comparing to those who spent less time. Similarly, the impact of instructor use of humor on student engagement found to be significantly stronger for students who spent more time in the online social network comparing to those who spent less time.

REFERENCES

- Abbasi, A., and Chen, H. (2008). "Cybergate: A Design Framework and System for Text Analysis of Computer-Mediated Communication," *MIS Quarterly* (32:4), pp. 811-837.
- Agarwal, R., Karahanna, E. (2000). "Time flies when you're having fun: cognitive absorption and beliefs about information technology usage", *MIS Quarterly* 24 (4) 665–694.
- Agarwal, R., Lucas, H., (2005). The information systems identity crisis: Focusing on high-visibility and high-impact research. *MIS Quart.* 29(3) 381–398.
- Alavi, M. (1994). Computer-mediated collaborative learning: An empirical evaluation. *MIS Quarterly* June: 159–174.
- Alberts, J. K. (1990). The use of humor in managing couples' conflict interactions. In D. D. Cahn (Ed.), *Intimates in conflict: A communication perspective* (pp. 105-120). Hillsdale, NJ: Erlbaum.
- Allen, M., Witt, P. L., & Wheelless, L. R. (2006). The role of teacher immediacy as a motivational factor in student learning: Using meta-analysis to test a causal model. *Communication Education* , 55, 2131.
- Altman, I. and Taylor, D. (1973) *Social Penetration: The Development of Interpersonal Relationships* (Holt, Rinehart & Winston, New York).
- Andersen, J. F. (1979). Teacher immediacy as a predictor of teaching effectiveness. In D. Nimmo (Ed.), *Communication Yearbook 3* (pp. 543–559). New Brunswick, NJ: Transaction.
- Andersen, J. F., Norton, R. W., & Nussbaum, J. F. (1981). Three investigations exploring relationships between perceived teacher communication behaviors and student learning. *Communication Education* , 30, 377_392.
- Andrew Miller, (2012) <http://www.edutopia.org/blog/blended-learning-engagement-strategies-andrew-miller>
- Arbaugh JB. (2000). How classroom environment and student engagement affect learning in internet-based MBA courses. *Business Communication Quarterly* 2000; 63(4):9–26.
- Arbaugh, J. B., & Hwang, A. (2006). Does "teaching presence" exist in online MBA courses? *The Internet and Higher Education*, 9(1), 9-21.
- Arhar JM, Kromrey JD. (1993) *Interdisciplinary Teaming In The Middle Level School: Creating A Sense Of Belonging For At-Risk Middle Level Students*. Paper presented at the annual meeting of the American Educational Research Association. Atlanta, Ga; 1993.
- Atkinson, M., & Kydd, C. (1997). Individual characteristics associated with World Wide Web use: An empirical study of playfulness and motivation. *The DATA BASE for Advances in Information Systems*, 28(2), 53-62.
- Axelson, R. D., & Flick, A. (2011). Defining student engagement. *Change*, 43, 38-43. doi:10.1080/00091383.2011.533096

- Aylor, B., & Opplinger, P. (2003). Out-of-class communication and student perceptions of instructor humor orientation and socio-communicative style. *Communication Education*, 52, 122-134.
- Bagozzi, R.P. and Dholakia, U.M., (2002). Intentional social action in virtual communities. *Journal of Interactive Marketing*, 16 (2), 2-21.
- Bagozzi, R.P. and Dholakia, U.M., (2006). Antecedents and purchase consequences of customer participation in small group brand communities. *International Journal of Research in Marketing*, 23 (1), 45-61.
- Baker, C (2010). "The impact of instructor immediacy and presence for online student affective learning, cognition, and motivation". *The journal of educators online*, 7 (1), p. 1.
- Barnes, K., R. Marateo and S. Ferris. (2007). Teaching and learning with the Net Generation. *Innovate* 3(4). <http://www.innovateonline.net> (accessed 21 July 2008).
- Baumgartner, J. C., & Morris, J. S. (2008). Jon Stewart comes to class: The learning effects of America (The Book) in Introduction to American Government Courses. *Journal of Political Science Education*, 4, 169-186. doi:10.1080/15512160801998015
- Baxter, L. A. (1992). Forms and functions of intimate play in personal relationships. *Human Communication Research*, 18,336-363.
- Baxter, L. A., & Wilmot, W. W. (1984). "Secret tests": Social strategies for acquiring information about the state of a relationship. *Human Communication Research*, 11,171-201.
- Benbasat, I., and Zmud, R. (2003) "The Identity Crisis within the IS Discipline: Defining and Communicating the Discipline's Core Properties," *MIS Quarterly* (27:2), pp. 183-194.
- Berger, C. R., & Calabrese, R. J. (1975). Some explorations in initial interaction and beyond: Toward a development theory of interpersonal communication. *Human Communication Research*, 1, 99-112.
- Berlyne, D. E. (1960). *Conflict, arousal, and curiosity*. New York: McGraw-Hill.
- Bloom, B., Englehart, M., Furst, E., Hill, W., & Krathwohl, D. (1956). *Taxonomy of educational objectives—the classification of educational goals, handbook I: The cognitive domain*. New York: McKay.
- Blythe, M., Overbeeke, K., Monk, A.F., & Wright, P.C. (2003). *Funology: From usability to enjoyment* (Vol. 3). Dordrecht, The Netherlands: Kluwer.
- Booth-Butterfield, S., & Booth-Butterfield, M. (1991). Individual differences in the communication of humorous message. *Southern Communication Journal*, 56, 205-217.
- Bosch, Tanja E.(2009) 'Using online social networking for teaching and learning: Facebook use at the University of Cape Town', *Communicatio*, 35: 2, 185 — 200
- Bothun, G D. (1998). Distance education: Effective learning or content-free credits Cause/Effect, 21 (2), 28-31, 36-37.

- Bousquet, Marc (2012). "Good MOOC's, Bad MOOC's," *The Chronicle of Higher Education*, July 25, 2012, available online at: <http://chronicle.com/blogs/brainstorm/good-moocs-bad-moocs/50361>
- Boyd, D. M. and Ellison, N. B. (2007). Social network sites: Definition, history and scholarship. *Journal of Computer-Mediated Communication*, 13(1):1.
- Brian Boyd (2004), *Laughter and Literature: A Play Theory of Humor Philosophy and Literature* - Volume 28, Number 1, April 2004, pp. 1-22
- Brophy, J. (1987). Synthesis of research on strategies for motivating students to learn. *Educational Leadership*, 45, 40-49.
- Bryant, J., & Zillmann, D. (1988). Using humor to promote learning in the classroom. *Journal of Children in Contemporary Society*, 20, 49_78.
- Bryant, J., Comiskey, P. W., Crane, J. S., & Zillman, D. (1980). Relationships between college teachers' use of humor in the classroom and student evaluation of their teachers. *Journal of Educational Psychology*, 72, 511_519.
- Bryant, J., Comiskey, P., & Zillman, D. (1979). Teachers' humor in the college classrooms. *Communication Education*, 28, 110_118.
- Canary, D. J., Stafford, L., Hause, K. S., & Wallace, L. A. (1993). An inductive analysis of relational maintenance strategies: Comparisons among lovers, relatives, friends, and others. *Communication Research Reports*, 10, 5-1
- Casalo', L., Flavia' n, C., and Guinali' u, M., (2007). The impact of participation in virtual brand communities on consumer trust and loyalty: the case of free software. *Online Information Review*, 31 (6), 775-792.
- Caughlin, J.P., & Afifi, T.D. (2004). When is topic avoidance unsatisfying? Examining moderators of the association between avoidance and dissatisfaction. *Human Communication Research*, 30, 479-513.
- Cayanus, J. L. (2004). Effective instructional practice: Using teacher self-disclosure as an instructional tool. *Communication Teacher*, 18, 6_9.
- Cayanus, J. L., & Martin, M. M. (2008). Teacher Self-Disclosure: Amount, Relevance, and Negativity, *Communication Quarterly*, 56:3, 325-341
- Cayanus, J. L., Martin, M. M., & Weber, K. D. (2003). The relationships between teacher self-disclosure with out-of-class communication, student interest, and cognitive learning. Paper presented at the annual meeting of the Southern States Communication Association, Birmingham, Alabama.
- Chaikin, Alan L.; Derlega, Valerian J. (1974) Variables affecting the appropriateness of self-disclosure. *Journal of Consulting and Clinical Psychology*, Vol 42(4), Aug 1974, 588-593. doi: 10.1037/h0036614
- Chaturvedi, Alok; Dolk, Daniel R.; and Drnevich, Paul L.. (2011). "Design Principles for Virtual Worlds," *MIS Quarterly*, (35: 3) pp.673-684.

- Chen P.S.D., Lambert A.D. & Guidry K.R. (2010) Engaging online learners: the impact of web-based learning technology on college student engagement. *Computers & Education* 54, 1222–1232. forthcoming.
- Chesebro, J. L., & McCroskey, J. C. (2001). The relationship of teacher clarity and immediacy with student state receiver apprehension, affect, and cognitive learning. *Communication Education*, 50, 59–68.
- Child, J. & Petronio, S. (2010) “Unpacking the paradoxes of privacy in CMC relationships: the challenges of blogging and relational communication on the internet.” *Computer Mediated Communication in Personal Relationships*.
- Christensen, L. J., Curley, K. E., Marquez, E. M., & Menzel, K. E. (1995). Classroom situations which lead to student participation. Paper presented at the annual meeting of the Speech Communication Association, San Antonio, TX.
- Civikly, J. M. (1986). Humor and the enjoyment of college teaching . In J. Civikly (Ed.), *Communicating in college classrooms* (pp. 61_70). San Francisco, CA: Jossey-Bass.
- Cohen, J. (1960). A coefficient of agreement for nominal scales. *Education and Psychological Measurement*, 20, 1, 37-46.
- Colquitt JA, LePine JA, Noe RA. (2000). Toward an integrative theory of training motivation: Ameta-analytic path analysis of 20 years of research. *Journal of Applied Psychology*, 85, 678–707
- Conkell, C. S., Imwold, C., & Ratliffe, T. (1999). The effects of humor on communicating fitness concepts to high school students. *Physical Educator*, 56, 8_/18.
- Connel! JP, Halpcm-Kelsher B. Clifford E, Crichlow W. Usinger P. (1995) Hanging in there: behavioral, psychological, and contextual factors affecting whether African-American adolescents stay in school. *J Adolesc Re.s*. 1995;100 1; 41-63.
- Cothrel, J. P. (2000). “Measuring the Success of an Online Community,” *Strategy and Leadership* (20:2), pp. 17-21.
- Csikszentmihalyi. M. *Beyond Boredom and Anxiety* (1975). Jossey-Bass. San Francisco. CA.
- Davies, A. P., & Apter, M. J. (1980). Humor and its effect on learning in children. In P. E. McGhee & A. J. Chapman (Eds.), *Children’s humour* (pp. 237_/254). New York: Wiley.
- Davis, F. D., Bagozzi, R. P., and Warshaw, P. R. (1989). “User Acceptance of Computer Technology: A Comparison of Two Theoretical Models,” *Management Science* (35:8), pp. 982-1003.
- December, J. (1996). What is computer-mediated communication? [Online] Available: <http://www.december.com/john/study/cmc/what.html>.
- Des Jarlais, D. C., Paone, D., Milliken, J., Turner, C. F., Miller, H., Gribble, J. (1999). "Audio-computer interviewing to measure risk behavior for HIV among injecting drug users: A quasi-randomized trial." *Lancet*, 353, 1657–1661.

- DeSanctis, Gerardine (2003) "The Social Life of Information Systems Research: A Response to Benbasat and Zmud's Call for Returning to the IT Artifact," *Journal of the Association for Information Systems*: Vol. 4: Iss. 1, Article 16.
- Dickmeyer, S. G. (1993) Humor as an instructional practice: A longitudinal content analysis of humor use in the classroom. Paper presented in the annual meeting of the Eastern Communication Association, New Haven, CT.
- Dou, W. and Krishnamurthy, S., (2007). Using brand websites to build brands online: a product versus service brand comparison. *Journal of Advertising Research*, 47 (2), 193– 206.
- Downes, S. (2007). Places to go: Facebook. *Innovate: Journal of Online Education* 4(1). <http://www.downes.ca/post/44263>
- Downs, V. C, Javidi, M., & Nussbaum, J. F. (1988). An analysis of teacher's verbal communication within the college classroom: Use of humor, self-disclosure, and narratives. *Communication Education*, 37,127-141.
- Dyck, J. L., & Smither, J. A. (1994). Age differences in computer anxiety: The role of computer experience, gender, and education. *Journal of Educational Computing Research*, 10, 239-248.
- Edwards, C., & Myers, S. A. (2007). Perceived instructor credibility as a function of instructor aggressive communication. *Communication Research Reports*, 24, 47_53.
- Ellis, K. (2002). Perceived parental confirmation: Development and validation of an instrument. *Southern Communication Journal*, 67, 319-334.
- Ellis, K. (2004). The impact of perceived teacher confirmation on receiver apprehension, motivation, and learning. *Communication Education*, 53, 1-20.
- Epstein, J. F., Barker, P. R., & Krottil, L. A. (2001). Mode effects in self-reported mental health data. *Public Opinion Quarterly*, 66, 529–550.
- Finn JD. (1993) *School Engagement and Students At Risk*. Washington. DC; National Center for Education Statistics; 1993.
- Finn, A.N., Schrodtt, P., Witt, P.L., Elledge, N., Jernberg, K.A., & Larson, L.M. (2009). A metaanalytical review of teacher credibility and its associations with teacher behaviors and student outcomes. *Communication Education*, 58, 516_537.
- Finn, J. D. (1989). Withdrawing from school. *Review of educational research*, 59(2), 117-142.
- Fjermestad, J., and Hiltz, S. R. (1999). "An Assessment of Group Support Systems Experimental Research: Methodology and Results," *Journal of Management Information Systems* (15:3), pp. 7-49.
- Flynn, B.; Sakakibara, S.; and Schroeder, R.G. (1995) Relationship between JIT and TQM: practices and performance. *Academy of Management Journal*, 38, 5, 1325-1360. 34. Furey, T.R. How information power can improve service quality. *Planning Review*, 19, 3
- Fogg, B. J., Marshall, J., Laraki, O., Osipovich, A., Varma, C., Fang, N., ... & Treinen, M. (2001). What makes Web sites credible?: a report on a large quantitative study. In *Proceedings of the SIGCHI conference on Human factors in computing systems* (pp. 61-68). ACM.

- Fogg, B.J. (2002). Stanford guidelines for web credibility. <http://credibility.stanford.edu/guidelines/index.html>.
- Fogg, B.J., and H. Tseng. (1999). The elements of computer credibility. In Proceedings of SIGCHI conference on Human Factors in Computing Systems: The CHI is the limit (CHI '99), 80–7. New York: ACM.
- Fogg, B.J., and J. Marshall. (2001). Web credibility research: A method for online experiments and early study results. Paper presented at the conference on Human Factors in Computing Systems CHI 2001, March 31–April 5, in Seattle, WA.
- Frymier, A. B. (2005). Students' classroom communication effectiveness. *Communication Quarterly*, 53, 197-212.
- Frymier, A. B., & Houser, M. L. (1998). Does making content relevant make a difference in learning? *Communication Research Reports*, 15, 121-129.
- Frymier, A. B., & Thompson, C. A. (1992). Perceived teacher affinity-seeking in relation to perceived teacher credibility. *Communication Education*, 41, 388_/399.
- Frymier, A. B., & Wanzer, M. B. (1999). Student perceptions of teacher humor use in relationship to learning and motivation: Examining appropriate and inappropriate teacher humor. Paper presented at the meeting of the National Communication Association, Chicago, IL.
- Frymier, A. B., & Weser, B. (2001). The role of student predispositions on student expectations for instructor communication behavior. *Communication Education* , 50, 314_/326.
- Frymier, A. B., Wanzer, M. B., & Wojtaszczyk, A. M. (2008). Assessing students' perceptions of inappropriate and appropriate teacher humor. *Communication Education*, 57(2), 266-288.
- Frymier, A.B. (1994). A model of immediacy in the classroom. *Communication Quarterly*, 42, 133-144.
- Furneaux, B. and Wade, M. (2011) An Exploration of Organizational Level Information Systems Discoutinuanace Intentions, *MIS Quarterly*, 35 (4), 573-598.
- Fusani, D. S. (1994). "Extra-class" communication: Frequency, immediacy, self-disclosure, and satisfaction in student-faculty interaction outside the classroom, formal of Applied Communication Research, 22, 232-255.
- Gervais, M., & Wilson, D.S. (2005). The evolution and functions of laughter and humor: A synthetic approach. *Quarterly Review of Biology*, 80, 395_430.
- Giardina M. (1992) Interactivity and intelligent advisory strategies in a multimedia learning environment: Human factors, design issues, and technical considerations. In M. Giardina (Ed.), *Interactive multimedia learning environments: Human factors and technical considerations on design issues*, Springer-Verlag, Berlin.
- Goldstein, G. S., & Benassi, V. A. (1994). The relation between teacher self-disclosure and student classroom participation. *Teaching of Psychology*, 21, 212_216.
- Goodboy, Alan K. (2009). "The Development and Validation of the Student Communication Satisfaction Scale". *Communication education* (0363-4523), 58 (3), p. 372.

- Goodenow C. (1993) Classroom belonging among early adolescent students: Relationships to motivation and achievement. *J Early Adolesc.* 1993;13(1):21-43.
- Gorham, J. & Millette, D.M. (1997). A comparative analysis of teacher and student perceptions of sources of motivation and demotivation in college classes. *Communication Education*, 46,245-261.
- Gorham, J. (1988). The relationship between verbal teacher immediacy behaviors and student learning. *Communication Education* , 37, 40_53.
- Gorham, J., & Christophel, D. M. (1990). The relationship of teachers' use of humor in the classroom to immediacy and student learning. *Communication Education* , 39, 46_/62.
- Gorham, J., & Christophel, D. M. (1992). Students' perception of teacher behaviors as motivating and demotivating factors in college classes. *Communication Quarterly*, 40, 239-252.
- Graham EE (1995). The involvement of a sense of humor in the development of social relationships. *Commun Rep*; 8:158–69.
- Grazioli, S., and Jarvenpaa, S. (2003). Consumer and business deception on the Internet: Content analysis of documentary evidence. *International Journal of Electronic Commerce*, 7, 4, 93-118.
- Greene, C. N., & Organ, D. W. (1973). An evaluation of causal models linking the received role with job satisfaction. *Administrative Science Quarterly*, 18, 95–103.
- H. O'Brien and E. Toms (2003). The development and evaluation of a survey to measure user engagement. *Journal of the American Society for Information Science and Technology*, 61(1):50–69.
- Hagel, J. and Armstrong, A.G., (1997). *Net gain: expanding markets through virtual communities*. Boston, MA: Harvard Business School Press.
- Hair, J. F. Anderson, R. E. Tatham, R. L. and Black, W. C. (1998). *Multivariate data analysis* (Fifth Edition ed.). Englewood Cliffs, New Jersey: Printice-Hall Inc
- Harris, J.J. (1989). When jokes are not funny. *Social Education*, 53, 270.
- Harter, J.K., Schmidt, F.L., & Hayes, T.L. (2002). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. *Journal of Applied Psychology*, 87(2), 268–279.
- Hassenzahl, M., & Tractinsky, N. (2006). User experience: A research agenda. *Behaviour and Information Technology*, 25(2), 91–97.
- Hauck, W. E., & Thomas, J. W. (1972). The relationship of humor to intelligence, creativity, and intentional and incidental learning. *Journal of Experimental Education* , 40, 52_/55.
- Hecht, M. L. (1984). Satisfying communication and relationship labels: Intimacy and length of relationship as perceptual frames of naturalistic conversations. *Western Journal of Speech Communication*, 48, 201-216.
- Hendrix, K. G. (1998). Student perceptions of the influence of race on professor credibility. *Journal of Black Studies* , 28, 738_/763.

- Herring, S. C. (2002). "Computer-Mediated Communication on the Internet," *Annual Review of Information Science and Technology* (36:1), pp. 109-168.
- Hewitt, A. and A. Forte. (2006). Crossing boundaries: Identity management and student/faculty relationships on the Facebook. <http://www.cc.gatech.edu/~aforthe/HewittForteCSCWPoster2006.Pdf> (accessed 20 September 2008).
- Hiltz, S. R. (1994). *The virtual classroom: Learning without limits via computer networks*. Norwood, NJ: Ablex Publishing Corporation.
- Hu, S., & Kuh, G. D. (2001). Computing experience and good practices in undergraduate education: Does the degree of campus "wiredness" matter? *Education Policy Analysis Archives*, 9(49). <<http://epaa.asu.edu/epaa/v9n49.html>>.
- Hulland, J. (1999). "Use of Partial Least Squares (PLS) in Strategic Management Research: A Review of Four Recent Studies," *Strategic Management Journal* (20:2), pp. 195-204.
- Jaasma, M. A. & Koper, R. J. (1999). The relationship of student-faculty out-of-class communication to instructor immediacy and trust and to student motivation. *Communication Education*, 48, 41-47.
- Jacobs, J. (2004). The faculty time divide. *Sociological Forum*, 19, 3-27.
- Jacques, R., Preece, J. & Carey, T. (1995). Engagement as a Design Concept for Hypermedia. *Canadian Journal of Educational Communications*, special issue on Multimedia Development, Spring 1995, 49-59.
- Jarvenpaa, S., Leidner, D., Teigland, R., and Wasko, M. (2007). "MISQ Special Issue: New Ventures in Virtual Worlds," *MIS Quarterly Call for Papers*.
- Joanne Kossuth, (2011) <http://www.educause.edu/ero/article/student-engagement-challenges-cio-perspective>
- John A. Banas, Norah Dunbar, Dariela Rodriguez & Shr-Jie Liu (2011): A Review of Humor in Educational Settings: Four Decades of Research, *Communication Education*, 60:1, 115-144
- Johnson, K. A. (2011). The effect of Twitter posts on students' perceptions of instructor credibility. *Learning, Media and Technology*, 36(1), 21-38.
- Johnson, K.A., and S. Wiedenbeck. (2009). Enhancing perceived story credibility on citizen journalism web sites. *Journalism and Mass Communication Quarterly* 86, no. 2: 332-48.
- Johnson, S.D., & Miller, A.N. (2002). A cross-cultural study of immediacy, credibility, and learning in the U.S. and Kenya. *Communication Education*, 51, 280-292.
- Joinson, A. N. (2001). Self-disclosure in computer-mediated communication: The role of self-awareness and visual anonymity. *European Journal of Social Psychology*, 31, 177-192.
- Joinson, A. N. (2003). *Understanding the psychology of Internet behavior: Virtual worlds, real lives*. New York: Palgrave Macmillan.
- Jones, A. C. (2008). The effects of out-of-class support on student satisfaction and motivation to learn. *Communication Education*, 57, 373-388.

- Jordan, P. W. (1998) "Human Factors for Pleasure in Product Use," *Applied Ergonomics* (29:1), pp. 25-33.
- Kaplan, R. M., & Pascoe, G. C. (1977). Humorous lectures and humorous examples: Some effects upon comprehension and retention. *Journal of Educational Psychology*, 69, 61_/65.
- Karimi, J., Somers, T. M., and Gupta, Y. P. (2001). "Impact of Information Technology Management Practices on Customer Service," *Journal of Management Information Systems* (17:4), pp. 125-158.
- Kelley, D. H., & Gorham, J. (1988). Effects of immediacy on recall of information. *Communication Education*, 37, 198-207.
- King, J.L. and Lyytinen, K. (2004) Reach and grasp. *MIS Quarterly*, 28(4), 539-551.
- Klem, A. M., & Connell, J. P. (2004). Relationships matter: Linking teacher support to student engagement and achievement. *Journal of School Health*, 74, 262–273.
- Knapp, J. L., & Martin, M. M. (2003). The relationship of out-of-class communication, student interest, and student motivation. Paper presented at the National Communication Association Convention, Miami, FL.
- Koh, J. and Kim, Y.-G., (2003). Sense of virtual community: a conceptual framework and empirical validation. *International Journal of Electronic Commerce*, 8 (2), 75–93.
- Kosik, A. (2007). The implications of Facebook. *Sharing the Commonwealth: Critical issues in higher education* 9–10. <http://www.pcpa.net/March2006.pdf> (accessed 27 September 2007).
- Kuh, G. D. (2003). What we're learning about student engagement from NSSE. *Change* 35(2): 24--32.
- Kuh, G. D., & Hu, S. (2001). The relationships between computer and information technology use, student learning, and other college experiences. *Journal of College Student Development*, 42, 217–232.
- Kuh, G. D., & Vesper, N. (2001). Do computers enhance or detract from student learning? *Research in Higher Education*, 42, 87–102.
- Lannutti, P. J., & Strauman, E. C. (2006). Classroom communication: The influence of instructor self-disclosure on student evaluations. *Communication Quarterly*, 54, 89–99.
- Latta, R. L. (1999). *The basic humor process: A cognitive-shift theory and the case against incongruity*. New York: Mouton de Gruyter, ISBN 3-11-016103-6)
- Laurel, B. (1991) *Computers as theatre*, Addison-Wesley, Reading, MA.
- Laurel, B. (1993). *Computers as theatre*. Reading, MA: Addison-Wesley.
- Lavin, A. M., Davies, T. L., & Carr, D. L. (2010). The Impact of Instructor Attire On Student Perceptions Of Faculty Credibility And Their Own Resultant Behavior. *American Journal of Business Education (AJBE)*, 3(6).

- Lee VE, Smith JB, Croninger RG. (1995) Another look at high school restructuring: more evidence that it improves student achievement, and more insight into why. *Issues in Restructuring Schools*. 1995;9:1-10
- Lemak, D., Shin, S., Reed, R., & Montgomery, J. (2005). Technology, transactional distance, and instructor effectiveness: An empirical investigation. *Academy of Management Learning & Education*, 4(2), 150-158.
- Lessler, J. T., Caspar, R. A., Penne, M. A., & Barker, P. R. (2000). Developing computer assisted interviewing (CAI) for the National Household Survey on Drug Abuse. *Journal of Drug Issues*, 30, 19-34.
- Leventhal, H. and Cupchik, Gerald (1976) "Process Model of Humor Judgment," *Journal of Communication*, 26, 3, 190-204
- Liang, H., Saraf, N., Hu, Q., & Xue, Y. (2007). Assimilation of enterprise systems: The effect of institutional pressures and the mediating role of top management. *Mis Quarterly*, 31(1), 59-87.
- Lin, H.-F. and Lee, G.-G., (2006). Determinants of success for online communities: an empirical study. *Behaviour & Information Technology*, 25 (6), 479-488.
- Mallon, B. and Webb, B. (2000) Structure, causality, visibility and interaction: propositions for evaluating engagement in narrative multimedia, *International Journal of Human Computer Studies*, 53 (2), 269-287.
- Malone, T.W., & Lepper, M.R. (1987) Making learning fun: A taxonomy of intrinsic motivations for learning, In R.E. Snow, & M.J. Farr (Eds.), *Aptitude, learning and instruction*, Erlbaum, Hillsdale, NJ.
- Marks HM. (2000) Student engagement in instructional activity: patterns in the elementary, middle, and high school years. *Am Educ Res J*. 2000;37(1); 153-184.
- Martin, M. M., & Anderson, C. M. (1995). The father-young adult relationship: Interpersonal motives, self-disclosure, and satisfaction. *Communication Quarterly*. 43.119-130
- Martin, M. M., Anderson, C. M., & Mottet, T. P. (1997). The relationship between perceived understanding and self-disclosure in the sibling relationship. *Communication Research Reports*. 14. 331-338.
- Martin, M. M., Anderson, C. M., & Mottet, T. P. (1999). Perceived understanding and self-disclosure in the stepparent-stepchild relationship. *Journal of Psychology*. 133, 281-290.
- Martin, M. M., Chesebro, J. L., & Mottet, T. P. (1997). Students' perceptions of instructors' sociocommunicative style and the influence on instructor credibility and situational motivation.
- Martin, M., T. Mottet, and J. Chesebro. (1997). Students' perceptions of instructors' socio-communicative style and the influence on instructor credibility and situational motivation. *Communication Research Reports* 14, no. 4: 431-40.
- Martinez-Egger, A. and W. Powers, (2002) Student Respect for a Teacher: Measurement and Relationships to Teacher Credibility and Classroom Behavior Perceptions. Paper presented at the annual meeting of the National Communication Association, New Orleans, LA, 2002.

- Mayes, J. T. (1992) "The 'M-Word': Multimedia Interfaces and Their Role in Interactive Learning Systems," in *Multimedia Interface Design in Education*, A. D. N. Edwards and S. Holland (eds.), Springer-Verlag. Berlin. pp. 1-22.
- Mazer, J. P., Murphy, R. E., & Simonds, C. S. (2007). I'll see you on "Facebook": The effects of computer-mediated teacher self-disclosure on student motivation, affective learning, and classroom climate. *Communication Education*, 56(1), 1–17.
- Mazer, Joseph P. , Murphy, Richard E. and Simonds, Cheri J.(2009) 'The effects of teacher selfdisclosure via Facebook on teacher credibility', *Learning, Media and Technology*, 34: 2, 175 — 183
- Mazur, M. A., & Ebesu Hubbard, A. S. (2004). "Is there something I should know?": Topic avoidant responses in parent-adolescent communication. *Communication Reports*, 17, 27-37.
- McBride, M. C., & Wahl, S. T. (2005). "To say or not to say?" Teachers' management of privacy boundaries in the classroom. *Texas Speech Communication Journal* , 30, 8_22.
- McCroskey, J. C. (1998). *An introduction to communication in the classroom* (2nd ed.). Acton, MA: Tapestry Press.
- McCroskey, J. C. (1998). *An introduction to communication in the classroom* (2nd ed.). Acton, MA: Tapestry Press.
- McCroskey, J.C., and J.J. Teven. (1999). Goodwill: A re-examination of the construct and its measurement. *Communication Monographs* 66: 90–103.
- McCroskey, J.C., K.M. Valencic, and V.P. Richmond. (2004). Toward a general model of instructional communication. *Communication Quarterly* 52: 197–210.
- McKenna, K. Y. A., & Bargh, J. A. (2000). Plan 9 from cyberspace: The implications of the Internet for personality and social psychology. *Personality and Social Psychology Review*, 4, 57–75.
- Menzel, K. E., & Carrell, L. J. (1999). The impact of gender and immediacy on willingness to talk and perceived learning. *Communication Education*, 48, 31–40.
- Menzies, H., & Newson, J. (2007). No time to think: Academics' life in the globally wired universe. *Time & Society*, 16, 83-98.
- Mesch, Gustavo S. & Beker, Guy "Are Norms of Disclosure of Online and Offline Personal Information Associated with the Disclosure of Personal Information Online?", *Human Communication Research* 36(4), (2010) 570–592
- Metzger, M. J. (2007). Communication privacy management in electronic commerce. *Journal of Computer-Mediated Communication*, 12(2), article
<http://jcmc.indiana.edu/vol12/issue2/metzger.html>
- Milem, J. F., & Berger, J. B. (1997). A modified model of college student persistence: Exploring the relationship between Astin's theory of involvement and Tinto's theory of student departure. *Journal of College Student Development*, 38, 387-400.
- Miller, D., & Slater, D. (2000). *The Internet: An ethnographic approach*. Oxford: Berg.

- Montoya-Weiss, M., Massey, A. P., and Song, M. (2001). "Getting it Together: Temporal Coordination and Conflict Management in Global Virtual Teams," *Academy of Management Journal* (44:6), pp. 1251-1262.
- Moore, M. (1973). Toward a theory of independent learning and teaching. *Journal of Higher Education*, 44(12), 661-679.
- Moore, M. G., & Kearsley, G. (1996). *Distance education: A systems view*. Belmont, CA: Wadsworth.
- Morin, D. (2007). Education application opportunity. <http://developers.facebook.com/news.php?blog=1&story=24> (accessed 27 October 2008).
- Morris, T. L., Gorham, J., Cohen, S. H., & Huffman, D. (1996). Fashion in the classroom: Effects of attire on student perceptions of instructors in college classes. *Communication Education*, 45, 135-148.
- Mottet, T. P., Martin, M. M., & Myers, S. A. (2004). Relationships among perceived instructor verbal approach and avoidance relational strategies and students' motives for communicating with their instructors. *Communication Education*, 53, 116-122.
- Mounts NS. Steinberg L. (1995) An ecological analysis of peer influence on adolescent grade point average and drug use. *Dev Psychol.* 1995;31:915-922.
- Myers, S. A. (2001). Perceived instructor credibility and verbal aggressiveness in the college classroom. *Communication Research Reports*, 18, 354-364.
- Myers, S. A. (2004). The relationship between perceived instructor credibility and college student in-class and out-of-class communication. *Communication Reports*, 17, 129-137.
- Myers, S. A., & Bryant, L. E. (2002). Perceived understanding, interaction involvement and college student outcomes. *Communication Research Reports*, 19, 146-155.
- Myers, S. A., & Zhong, M. (2004). Perceived Chinese instructor use of affinity-seeking strategies and Chinese college student motivation. *Journal of Intercultural Communication Research*, 33, 119-130.
- Myers, S. A., Brann, M., & Members of Comm 600. (2009). College Students' Perceptions of How Instructors Establish and Enhance Credibility Through Self-Disclosure. *Qualitative Research Reports in Communication*, 10(1), 9-16.
- Myers, S. A., Mottet, T. P., & Martin, M. M. (2000). Students' motives for communicating with their instructors: The relationship between student communication motives and perceived instructor style. *Communication Research Reports*, 17, 161-170.
- Myers, S., & Bryant, L. (2004). College students' perceptions of how instructors convey credibility. *Qualitative Research Reports in Communication*, 5, 22-27.
- Nadler, M. and L. Nadler, (2001). The Roles of Sex, Empathy and Credibility in Out-of-Class Communication between Faculty and Students, *Women's Studies in Communication*, Vol. 24, pp.241-261, 2001.

- Nambisan, S. and Nambisan, P., (2008). How to profit from a better 'virtual customer environment.' MIT Sloan Management Review, 49 (3), 53–61.
- Nelson Laird, T. F., & Kuh, G. D. (2005). Student experiences with information technology and their relationship to other aspects of student engagement. *Research in Higher Education*, 46(2), 211–233.
- Nixon, J., (2011) Gov. Nixon signs into law Senate Bills 54
["http://governor.mo.gov/newsroom/2011/Gov_Nixon_signs_into_law_Senate_Bills_54_and_250_and_House_Bills_137_and_641"](http://governor.mo.gov/newsroom/2011/Gov_Nixon_signs_into_law_Senate_Bills_54_and_250_and_House_Bills_137_and_641)
- Noe RA, Schmitt N. (1986). The influence of trainee attitudes on training effectiveness: Test of a model. *PERSONNEL PSYCHOLOGY*, 39, 497–523.
- Noe RA. (1986). Trainee attributes and attitudes: Neglected influences on training effectiveness. *Academy of Management Review*, 11, 736–749.
- Norton, R. W., & Nussbaum, J. F. (1981). Dramatic behaviors of the effective teacher. *Communication Yearbook* , 4, 565_579.
- Nunziata, A. M. (2007). College student perceptions of instructor communication privacy management. Paper presented at the annual meeting of the National Communication Association, Chicago, IL.
- Nussbaum, J. F., Comadena, M. E., & Holladay, S. J. (1987). Classroom verbal behaviors of highly effective teachers. *Journal of Thought*. 11. 73-80.
- O'Sullivan, P. B., Hunt, S. K., & Lippert, L. R. (2004). Mediated immediacy: A language of affiliation in a technological age. *Journal of Language and Social Psychology*, 23, 464_490.
- Obermiller, C., Ruppert, B., & Atwood, A. (2012). Instructor Credibility Across Disciplines Identifying Students' Differentiated Expectations of Instructor Behaviors. *Business Communication Quarterly*, 75(2), 153-165
- Oblinger, D., and Maruyama, M. (1996). Distributed learning. CAUSE Professional Paper Series No. 14. Boulder, CO: CAUSE.
- O'Brien, Heather L. (2008). "What is user engagement? A conceptual framework for defining user engagement with technology". *Journal of the American Society for Information Science and Technology* (1532-2882), 59 (6), p. 938.
- Opplinger, P.A. (2003). Humor and learning. In J. Bryant, D. Roskos-Ewoldsen, & J.R. Cantor (Eds.), *Communication and emotion: Essays in honor of Dolf Zillmann* (pp. 255_273). Mahwah, NJ: Laurence Erlbaum.
- Osterlund, K., & Robson, K. (2009). The impact of ICT on work-life experiences among university teaching assistants. *Computers & Education*, 52, 432-437.
- Parrott, T. (1994). Humor as a Teaching Strategy. *Nurse Educator* 19 (3): 36-38.
- Patton, T. O. (1999). Ethnicity and gender: An examination of its impact on instructor credibility in the university classroom. *The Howard Journal of Communication* , 10, 123_/144.

- Petronio, S. (2002). *Boundaries of privacy: Dialectics of disclosure*. Albany: State University of New York Press.
- Petronio, S. (2007). Translational research endeavors and the practices of communication privacy management. *Journal of Applied Communication Research*, 35(3), 218–222.
- Picciano, A. G. (2002). Beyond student perceptions: Issues of interaction, presence, and performance in an online course. *Journal of Asynchronous Learning Networks*, 6(1), 21–40.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879–903.
- Porter, C., Donthu, N., MacElroy, W., and Wydra, D., (2011). "How to Foster and Sustain Engagement in Virtual Communities". *California management review* (0008-1256), 53 (4), p. 80.
- Quinones MA. (1995). Pretraining context effects: Training assignment as feedback. *Journal of Applied Psychology*, 80, 226–238.
- Raphael, J. (2009). Facebook overtakes myspace in u.s. PC World.
- Rawlins, W. K. (2000). Teaching as a mode of friendship. *Communication Theory*, 10, 5–26.
- Reisberg, L. (2000). 10% of students may spend too much time online, study suggests. *The Chronicle of Higher Education* [On-line]. Retrieved May 25, 2004 from <http://chronicle.com/free/2000/06/2000060501t.htm>.
- Richmond, V. P. (1990). Communication in the classroom: Power and motivation. *Communication Education*, 39, 181–195.
- Richmond, V. P., Gorham, J. S., & McCroskey, J. C. (1987). The relationship between immediacy behaviors and cognitive learning. In M. McLaughlin (Ed.), *Communication yearbook* (Vol. 10, pp. 574–590). Beverly Hills, CA: Sage.
- Ridley, D., & Sammour, H. (1994). Viable alternative means of instructional delivery: Online courses as an alternative teaching method. *College Student Journal*, 30, 337–339.
- Robinson, C. C., & Hullinger, H. (2008). New benchmarks in higher education: Student engagement in online learning. *Journal of Education for Business*, 84(2), 101–108.
- Roblyer, M. D., McDaniel, M., Webb, M., Herman, J., Witty J. V. (2010). Findings on Facebook in higher education: A comparison of college faculty and student uses and perceptions of social networking sites, *Internet and Higher Education*, 7, 1.
- Rocca, K. A. (2001). Participation in the college classroom: A comprehensive literature review. Paper presented at the annual meeting of the National Communication Association, Atlanta, GA.
- Roderick M, Engle M. (2001) The grasshopper and the ant: Motivational responses of low-achieving students to high-stakes testing. *Educ Eval Policy Analysis*. 2001 ;23(3): 197–227
- Rodriguez, J., Plax, T., & Kearney, P. (1996). Clarifying the relationship between teacher nonverbal immediacy and student cognitive learning: Affective learning as the central causal mediator. *Communication Education*, 45, 293–305.

- Russ, T. L., Simonds, C. J., & Hunt, S. K. (2002). Coming out in the classroom . . . an occupational hazard: The influence of sexual orientation on teacher credibility and perceive student learning. *Communication Education*, 51, 311–324.
- Rutledge, P. (2011) Should Teachers and Students Be Facebook Friends?, *Psychology Today*, available at <http://www.psychologytoday.com/blog/positively-media/201106/should-teachers-and-students-be-facebook-friends>
- Sadowski, C. J., & Gulgoz, S. (1994). An evaluation of the use of content-relevant cartoons as a teaching device. *Journal of Instructional Psychology*, 21, 368_/370.
- Saks, A.M. (2006). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology*, 21(7), 600–619.
- Salanova, M., Agut, S., & Peiro', J.M. (2005). Linking organizational resources and work engagement to employee performance and customer loyalty: The mediation of service climate. *Journal of Applied Psychology*, 90(6), 1217–1227.
- Salvo, M.J. (2002). Critical engagement with technology in the computer classroom. *Technical Communication Quarterly*, 11(3), 317–337.
- Sandelands, L. E. (1988) "Effects of Work and Play Signals on Task Evaluation, " *Journal of Applied Social Psychology*" (18:12), pp. 1032-1048.
- Sandelands, L. E., and Buckner, G. C (1989). "Of Art and Work: Aesthetic Experience and the Psychology of Work Feelings," in *Research in Organizational Behaviour*, L. L. Cummings and B.M. Staw(eds.). JAI Press, Greenwich, CT, 1989, pp. 105-131.
- Schaffhauser, Diane (2012). "Education leaders see MOOCs, Distance Learning as the future of Higher Ed," *Campus technology*, 8/20/2012, available online at <http://campustechnology.com/articles/2012/08/20/education-leaders-see-moocs-distance-learning-as-the-future.aspx>
- Schrodt, P. (2003). Students' appraisals of instructors as a function of students' perceptions of instructors' aggressive communication. *Communication Education* , 52, 106_/121.
- Schrodt, P., & Turman, P. D. (2005). The impact of instructional technology use, course design, and sex differences on students' initial perceptions of instructor credibility. *Communication Quarterly*, 53, 177_/197.
- Schrodt, P., & Witt, P.L. (2006). Students' attributions of instructor credibility as a function of students' expectations of instructional technology use and nonverbal immediacy. *Communication Education*, 55, 1_20.
- Schrodt, P., P.L. Witt, P.D. Turman, S.A. Myers, M.H. Barton, and K.A. Jernberg. (2009). Instructor credibility as a mediator of instructors' prosocial communication behaviors and students' learning outcomes. *Communication Education* 58, no. 3: 350–71.
- Schrodt, P., Turman, P. D., & Soliz, J. (2006). Perceived understanding as a mediator of perceived teacher confirmation and students' ratings of instruction. *Communication Education*, 55, 370_388.

- Selwyn, N. (2009), "Faceworking: exploring students' education-related use of Facebook", *Learning, Media, & Technology*, Vol. 34 No. 2, pp. 157-74.
- Semlak, J. L., & Pearson, J. C. (2008). Through the years: An examination of instructor age and misbehavior on perceived teacher credibility. *Communication Research Reports*, 25(1), 76-85.
- Shaw, M., and Costanzo, P., (1982) *Theories of Social Psychology* (McGraw-Hill, New York).
- Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. New York: Wiley.
- Shulman, L. S. (2002). Making differences: A table of learning. *Change* 34(6): 36--45.
- Terenzini, P. T. (1989). Assessment with open eyes: Pitfalls in studying student outcomes. *Journal of Higher Education* 60: 644--664.
- Skelly, T.D. (1991) The design of seductive experiences. Tutorial presented at ACM CHI '91, New Orleans, April 27-May 2, ACM Press, New York.
- Slavica Kodish & Loyd S. Pettegrew (2008): Enlightened Communication Is the Key to Building Relationships, *Journal of Relationship Marketing*, 7:2, 151-176
- Sobel, D. L. (2000). The process that "John Doe" is due: Addressing the legal challenge to Internet anonymity. *Virginia Journal of Law and Technology*, 5, 1522--1687.
- Sorensen, G. (1989). The relationship among teachers' self-disclosive statements, students' perceptions, and affective learning. *Communication Education*. 38, 259-276.
- Steinberg LD, Brown BB, Dombusch SM, (1996). *Beyond the Classroom: Why School Reform Has Failed and What Parents Need to Do*. New York, NY; Simon and Schuster.
- Stelzner, M.A. (2011) "2011 Social Media Marketing Industry Report," *Social Media Examiner*, available at <http://www.socialmediaexaminer.com/SocialMediaMarketingReport2011.pdf>
- Stuart, W.D., & Rosenfeld, L.B. (1994). Student perceptions of teacher humor and classroom climate. *Communication Research Reports*, 11, 87_97.
- Stutzman, F. (2008). The vibrancy of online social space. In B. Rigby, *Mobilizing generation 2.0: A practical guide to using web 2.0 technologies to recruit, engage & activate youth*. New York, NY: Jossey- Bass.
- Suler, John (2004) "The Online Disinhibition Effect". *Cyber Psychology & Behavior*. June 2004, 7(3): 321-326
- Suls, J. M. (1972). A two-stage model for the appreciation of jokes and cartoons: An information processing analysis. In J. H. Goldstein & P. E. McGhee (Eds.), *The psychology of humor*. New York: Academic.
- Tannenbaum SI, Yukl G. (1992). Training and development in work organizations. *Annual Review of Psychology*, 43, 399--441.
- Taylor, D. (1968). The Development of Interpersonal Relationships: Social Penetration Processes, *Journal of Social Psychology* 75(1), 79-90

- Taylor, D., and Altman I., (1975) Self-Disclosure as a Function of Reward Cost Outcomes, *Sociometry* 38(1),18-31.
- Terri R. Kurtzberg, Charles E. Naquin, Liuba Y. Belkin, (2009),"Humor as a relationship-building tool in online negotiations", *International Journal of Conflict Management*, Vol. 20 Iss: 4 pp. 377 - 397
- Teven, J. J. & McCroskey, J. C. (1997). The relationship of perceived teacher caring wit student learning and evaluation. *Communication Education*, 46, 1–9.
- Teven, J. J. (2001). The relationship among teacher characteristics and perceived caring. *Communication Education*, 50, 159_169.
- Teven, J. J., & Comadena, M. E. (1996). The effects of office aesthetic quality on students' perceptions of teacher credibility and communicator style. *Communication Research Reports*, 13, 101_/108.
- Teven, J. J., & Hanson, T. L. (2004). The impact of teacher immediacy and perceived caring on teacher competence and trustworthiness. *Communication Quarterly*, 52, 39_/53.
- Teven, J.J., and J.C. McCroskey. (1997). The relationship of perceived teacher caring with student learning and teacher evaluation. *Communication Education* 46: 1–9.
- Thweatt, K. S., & McCroskey, J. C. (1998). The impact of teacher immediacy and misbehaviors on teacher credibility. *Communication Education* , 47, 348_/358.
- Titsworth, B. S. (2001). Immediate and delayed effects of interest cues and engagement cues on students' affective learning. *Communication Studies*, 52, 169–179.
- Todd, T. S., Tillson, L. D., Cox, S. A., & Malinauskas, B. K. (2000). Assessing the perceived effectiveness of the basic communication course: An examination of the mass-lecture format versus the self-contained format. *Journal for the Association of Communication Administration*, 29, 185_/195.
- Torok, S.E., McMorris, R.F., & Lin, W. (2004). Is humor an appreciated teaching tool? Perceptions of professors' teaching styles and use of humor. *College Teaching*, 52, 14_20.
- Turney, P. D., and Littman, M. L. (2003). "Measuring Praise and Criticism: Inference of Semantic Orientation from Association," *ACM Transactions on Information Systems* (21:4), pp. 315-346.
- Viswanath Venkatesh, Michael G. Morris, Gordon B. Davis, Fred D. Davis (2003). User Acceptance of Information Technology: Toward a Unified View Vol. 27, No. 3 (Sep., 2003), pp. 425-478. Published by: Management Information Systems Research Center, University of Minnesota. Stable URL: <http://www.jstor.org/stable/30036540>
- Voelkl KE. (1995) School warmth, student patiiicipation. and achievement. *J Exp Educ*. 1995;63;127-138.
- Waldeck, J. H., Kearney, P., & Plax, T. G. (2001). Teacher email message strategies and students' willingness to communicate online. *Journal of Applied Communication Research* , 29, 54_70.

- Walther, J. (1996). Computer mediated communication: Impersonal, interpersonal and hyperpersonal interaction. *Communication Research*, 23, 3–43.
- Wambach, C, & Brothen, T. (1997). Teacher self-disclosure and student classroom participation revisited. *Teaching of Psychology*. 24. 262-263.
- Wanzer, M. B. (2002). Use of humor in the classroom: The good, the bad, and the not-so-funny things that teachers say and do. In J. L. Chesebro & J. C. McCroskey (Eds.), *Communication for teachers* (pp. 116_/125). Boston: Allyn & Bacon.
- Wanzer, M. B., & Frymier, A. B. (1999a). The relationship between student perceptions of instructor humor and students' reports of learning. *Communication Education* , 48, 48_/61.
- Wanzer, M. B., & Frymier, A. B. (1999b). Being funny in the classroom: Appropriate and inappropriate humor behaviors . Paper presented at the meeting of the Eastern Communication Association, Charleston, WV.
- Wanzer, M. B., Frymier, A. B., & Irwin, J. (2010). An explanation of the relationship between instructor humor and student learning: Instructional humor processing theory. *Communication Education*, 59(1), 1-18.
- Wanzer, M. B., Frymier, A. B., Wojtaszczyk, A. M., & Smith, T. (2006). Appropriate and inappropriate uses of humor by instructors. *Communication Education*, 55, 178_196.
- Wasko, M. M., and Faraj, S. (2005). "Why Should I Share? Examining Social Capital and Knowledge Contribution in Electronic Networks of Practice, *MIS Quarterly* (29:1), pp. 35-57.
- Weber, K. D., Martin, M. M., & Cayanus, J. L. (2005). Student interest: A two-study reexamination of the concept. *Communication Quarterly*, 53, 71-86.
- Webster, J., & Ho, H. (1997). Audience engagement in multimedia presentations. *The DATA BASE for Advances in Information Systems*, 28(2), 63–77.
- Welker, W. A. (1977). Humor in education: A foundation for wholesome living. *College Student Journal* , 11, 252_/254.
- Wellman, B. and Gulia, M., (1999). Net-surfers don't ride alone: virtual communities as communities. In: B. Wellman, ed. *Networks in the global village*. Boulder, CO: Westview Press, 331–366.
- Wenger, E. & Snyder, W.M. (2000). Communities of practice: The organizational frontier. *Harvard Business Review*, 139–145.
- Wheeless, L. R. (1976). Self-disclosure and interpersonal solidarity: Measurement, validation, and relationships. *Human Communication Research*, 3, 47
- Wheeless, L. R. (1978). A follow-up study of the relationships among trust, disclosure and interpersonal solidarity. *Human Communication Research*, 4, 143-157
- Wheeless, L.R., & Grotz, J. (1976) Conceptualization and measurement of reported self-disclosure. *Human Communication Research*, 3,338-346.
- Wheeless, L. R., & Grotz, J. (1977). The measurement of trust and its relation to self-disclosure. *Human Communication Research*, 3, 250-257.

- Wheeless, V. E., Witt, P. L., Maresh, M., Bryand, M. C., & Schrod, P. (2011). Instructor credibility as a mediator of instructor communication and students' intent to persist in college. *Communication Education*, 60(3), 314-339.
- White, G. W. (2001). Teachers' report of how they used humor with students' perceived use of such humor. *Education*, 122, 337-347.
- Whitley, Jr., B.E. (1997). Gender differences in computer-related attitudes and behavior: A meta-analysis. *Computers in Human Behavior*, 13, 1-22.
- Willingham WW. Pollack JM. Lewis C. (2002). Grades and test scores: accounting for observed differences. *J Educ Meas.* 2002;39(1);1-37.
- Witt, P. L., & Kerssen-Griep, J. (2011). Instructional feedback I: The interaction of facework and immediacy on students' perceptions of instructor credibility. *Communication Education*, 60(1), 75-94.
- Wright, K. (2000). Perceptions of on-line support providers: An examination of perceived homophily, source credibility, communication and social support within on-line support groups. *Communication Quarterly*, 48(1), 44-59.
- Ziv, A. (1988). Teaching and learning with humor: Experiment and replication. *Journal of Experimental Education*, 57, 5-15.

APPENDIX

A. Appropriate and Inappropriate Humor

Table A1 below represents the categories and subcategories of appropriate instructor humor. Table A2 represents the categories and subcategories of inappropriate instructor humor.

Table A1: Categories and Subcategories of Instructor's Appropriate Humor. (Wanzer et al., 2006)

I. Related Humor. This category included any humor used by the professor that related to the material or enhanced learning in the classroom.

- Using Media or External Objects to Enhance Learning/Humor attempts that were related to the course material and used props or different types of media to enhance learning. For example, "He regularly dressed up in costume for theme of class," "Playing with a slinky to demonstrate a physics experiment," "Used a related cartoon," or "Showed movies of research that were funny because they were outdated."
- Jokes/Teacher used jokes that related to the course material. For example, "what's someone who likes to go out a lot? Answer: Fungi."
- Examples/Teacher used humorous examples to illustrate course concepts. For example, "Math teachers have used names in word problems that were

Table A1 (con't.)

humorous.”

- Stories/Teacher used humorous stories to illustrate course concepts or reinforce learning. For example, “Using a funny story about their kids, past college experiences, other family members and relating it to class discussion.”
- Critical/Cynical/Teacher was critical or cynical about course material in an effort to be humorous. For example, “A teacher using of sarcasm to get a point across,” or “teacher making fun of the book.”
- College Life Stereotypes/Teacher used humor attempts related to the course material and targeting stereotypical college behaviors. For example, “Teacher uses stereotypical behavior, e.g., partying, not studying, as examples,” “Ask us what types of beer we prefer when they need examples to show the demand of things,” or “Using ‘slang’ that students use when they are discussing topics.”
- Directed towards Student/Teasing/Teacher employed humor attempts related to the material and, at the same time directed towards students. For example, “Using a student in a demonstration that was humorous and harmless.”
- Teacher Performance/Teacher used humor attempts related to class material that involved some type of animated performance. For example, “A marketing professor runs around the classroom and gets really excited about topics,”

Table A1 (con't.)

“My teacher made a rap about math,” or “Doing the voice of Columbus while talking about voyages to America.”

- Role Playing/Activities/Teacher used humor attempts related to course material that involved student role play or activities. For example, “Staged events in class that were funny but made a point,” or “we did a skit about what we were learning.”
- Creative Language Usage/Teacher used humor attempts related to the course material that involved creative language or word play. For example, “Teachers come up with funny mnemonic devices to help us remember important material,” or “Talks of bacteria as little beasties or little guys.”

II. Humor Unrelated to Class Material. This category included any humor used by the professor that did not relate to learning or classroom enhancement.

- Stories/Teacher humor attempts that involved stories that were not related to the class material. For example, “Sometimes teachers will go off on tangents and just tell stories for the heck of it.”
- Jokes/Teacher humor attempts that involved jokes that were not related to the course material. For example, “He said that they are celebrating 15 years of not killing one another, also known as an anniversary.”

Table A1 (con't.)

- Critical/Cynical/Teacher humor attempts that involved critical or cynical humor that was not related to the course material. For example, “Poking fun at ignorant behaviors, negative ways of thinking, or other professors,” or “General sarcasm.”
- Directed towards Student/Teasing*/Teacher humor attempts that were not related to the course material and involved teasing or making fun of a student. For example, “my teacher teased a girl in my class about a guy she has seen her with.”
- College Life Stereotypes/Teacher used humor attempts that were not related to the course material and targeted stereotypical college behaviors. For example, “they have made funny comments on the typical college student (procrastinators, clothing, weekend habits, etc.)”
- Teacher Performance/Teacher used humor attempts that were not related to class material and involved some type of animated performance. For example, “Making faces at the class,” or “Jumped up on desk and started acting like a monkey.”
- Creative Language Usage/Teachers used humor attempts that were not related to the course material and involved creative language or word play. For example, “Teachers using puns,” or “Plays on words which are humorous.”
- Current Events/Political*/Teachers used humor attempts that were not related to the course material and involved current events or politics. For example, “He brings in current issues in the world and finds humor out of them.”

Table A1 (con't.)

- Using Media or External Objects*/Humor attempts that were not related to the course material and involved the use of props or different types of media to enhance learning. For example, “Showing pictures of funny things,” or “He likes to play random assortments of music before class.”

III. Self-Disparaging Humor. This type of humor involves jokes, stories or comments in which an instructor criticizes, pokes fun of or belittles himself/herself.

- Make Fun of Himself/Herself: Humor attempts targeting the teacher in a general way. For example, “A teacher making fun of himself.”
- Make Fun of Personal Characteristics: Humor attempts targeting personal characteristics of the teacher. For example, “When a teacher joked about his eyesight and clumsiness.”
- Tell Embarrassing Stories: Teacher shares embarrassing stories in an attempt to be funny. For example, “Teacher telling life stories that may have been embarrassing for them, or put them in an awkward situation.”
- Make Fun of Mistakes Made in Class: In an attempt to be funny the teacher makes fun of a mistake he/she made. For example, “Poking fun at themselves for a mistake they have made in class.”
- Make Fun of Abilities in an attempt to be funny the teacher might make fun of

Table A1 (con't.)

his/her abilities. For example, “Teachers often refer to themselves as stupid.”

IV. Unintentional or Unplanned Humor. The teacher did not intend to be funny, but the students found his/her behavior to be humorous. Examples: Unintentional puns and slips of the tongue.

Table A2: Categories and Subcategories of Instructor’s Inappropriate Humor. (Wanzer et al., 2006)

I. Offensive Humor. Humor in this category included any types of humor that were clearly identified as offensive in nature and not necessarily targeted at a specific person or persons.

- Sexual Jokes/Comments*/Teacher tells sexual jokes or makes sexual comments in an attempt to be humorous. For example, “I had a health class in which the teacher would make graphic jokes about sex.”
- Vulgar Verbal and Nonverbal Expressions*/Teacher uses vulgar verbal or nonverbal expressions. For example, “Swearing,” “Flipping the bird to students in class,” or “Carrying or wearing something that is derogatory.”
- Drinking*/ In an attempt to be funny, the teacher will make references to drinking or alcohol. For example, “When a teacher talks about getting drunk,” or “I find it offensive when professors always use examples pertaining to alcohol.”

Table A2 (con't.)

- Inappropriate Jokes*/Teacher tells inappropriate jokes in class. For example, “Teachers crack jokes that do not relate to the lesson,” or “My English teacher told a few inappropriate jokes.”
- Personal Life*/In an attempt to be funny, the teacher tells stories about his/her personal life. For example, “Teacher always told stories about herself, son, and dog in the middle of lectures. It was basically a waste of time.”
- Drugs/Illegal Activities*/Teacher humor attempts that involved discussion of drugs or illegal activities. For example, “Talking about inappropriate things such as pornography and drugs.”
- Morbid Humor*/Teacher humor attempts that involve discussions about death or another related morbid topic. For example, “In a law class, professor tells cases of when people died or got hurt in a humorous manner.”
- Sarcasm*/Teacher humor attempts that involve sarcasm. For example, “When we asked him how to do a problem he would say something such as ‘with a pencil’.”

II. Disparaging Humor Student Target. Humor in this category is clearly disparaging in nature and targets students as a group or individual students.

Students (as a group)

- Nonspecific Response*/Teacher humor attempts that targeted students in a nonspecific way. For example, “Jokes that spoke about all students in general and made fun of them.”

Table A2 (con't.)

- Based on Intelligence*/Teacher humor attempts that targeted students' intelligence. For example, "Teacher referred to a group of students as 'the living brain dead.'"
- Based on Gender*/Teacher humor attempts that targeted students based on gender. For example, "One teacher actually advised girls to take home education instead of physical education."
- Based on Appearance*/Teacher humor attempts that targeted students' appearance. For example, "A professor making reference to the number of students that wear clothes from Abercrombie & Fitch."

One Student (singled out)

- Nonspecific Response*/Teacher humor attempts that targeted a single student in a nonspecific way. For example, "Anytime when a teacher puts another student down in front of others just to get a laugh from the class."
- Based on Intelligence*/Teacher humor attempts that target a specific student's intelligence. For example, "Calling someone stupid in a humorous way," or "Making fun of a student's answer, even though the student was serious about it."
- Based on Student's Personal Life/Opinions/Interests*/Teacher humor attempts that target a specific student's personal life, opinions or interests. For example, "A comment made to demean someone who has expressed their opinion," or "Making fun of a student's personal life."

Table A2 (con't.)

- Based on Appearance*/Teacher humor attempts that involved targeting a specific student's appearance. For example, "A particular teacher would personally attack people by making fun of their clothes or the way they looked."
- Based on Gender*/Teacher humor attempts that involved targeting a specific student based on gender. For example, "Teacher made a very sexual comment in class towards a female and then laughed."
- Based on Religion*/Teacher humor attempts that targeted a specific student based on religion. For example, "The student was of Indian decent and a practicing Hindu. The teacher mocked her by saying, 'Go worship your cow'."

III. Disparaging Humor: "Other" Target. Humor attempts in this category are clearly disparaging in nature, and are targeted at individuals or groups other than students.

- Using stereotypes in general*/Teacher humor attempts that involved use of stereotypes in a general way. For example, "Excessive use of stereotypes in jokes."
- Targeting Gender Groups*/Teacher humor attempts that involved targeting males or females. For example, "Our teacher sometimes stereotypes certain sexes and makes jokes about them."
- Targeting Ethnic or Racial Groups*/Teacher humor attempts that involved targeting particular racial or ethnic groups. For example, "I have a teacher that regularly makes fun of different ethnic/cultural groups," or "A teacher would make generalizations about a race, and make fun of that race in class."


Table A2 (con't.)

- Target is University Related*/Teacher humor attempts that involved targeting university staff. For example, “Making fun of other teachers,” or “Making fun of certain organizations at the school.”
- Targeting Religious Groups*/Teacher humor attempts that involved targeting certain religions groups. For example, “Several professors have made references to religion, especially Christianity, in belittling terms.”
- Targeting persons of a given sexual orientation*/Teacher humor attempts that involved targeting people based on sexual orientation. For example, “Making fun of sexual orientation,” or “Jokes referring to gays.”
- Targeting persons of a given appearance*/Teacher humor attempts that involved targeting people based on their appearance. For example, “Telling blonde jokes.”
- Political motivation*/Teacher humor attempts that involved targeting people based on their political affiliations. For example, “Humor which is politically motivated, therefore projecting their views upon you.”


IV. Self-Disparaging Humor. This type of humor involves a professor criticizing, poking fun of or belittling himself/herself. Example: Professor says, “I am such an idiot!” to the class or performs a similar self-disparaging.

B. Examples of Facebook Pages used in the Study

B.1 A sample simulated Facebook page used in the exploratory study




The screenshot shows a Facebook page for 'Ismg2050', a community page for the University of Colorado Denver Business School. The page features the university's logo, a search bar, and navigation links. The main content area displays a 'Wall' with a post by 'Ismg2050' and a 'Write something...' text box. The right sidebar includes an 'Admins' list and various page management options.



ISMG2050
When I was working as analyst at Oracle; I used tools for solving business problems similar to the one we'll use in this class

Like. Comment. Share.



ISMG2050
The school of business is preparing for a workshop about using Microsoft Excel in business. In my opinion, it's important for students to attend such events related to their courses. I recommend all of you to attend it

Like. Comment. Share.

ISMG2050
Next class we'll discuss linking data between multiple Excel files. I used to use this feature in my work so I could keep separate files for different topics, but still I could use data from one Excel file in another one



when

Like. Comment. Share.

needed



ISMG2050

So what's involved in making reports look good? A good executive summary and charts. Charts are visual and easy to read. They are an effective way to communicate data

Like. Comment. Share.



ISMG2050

One of the main tasks I was responsible for in my career was to keep track of all transactions that occur in the business. I used to use Excel to create a "journal" file; we'll discuss this in the next class

Like. Comment. Share.



ISMG2050

In Excel we can use the format features to highlight important data, like tax rates, by using a specific text color, filling, or borders

Like. Comment. Share.



ISMG2050

We'll start to use the MS Access next class please be prepared

Like. Comment. Share.

ISMG2050

The slides for the next module have been uploaded



Like. Comment. Share.



ISMG2050

One of the most common uses of Microsoft Access in business is to keep track of customer information: name, address, and phone numbers

Like. Comment. Share.



ISMG2050

For assignment 5, you'll need to start with the Excel file: assignment5.xlsx, you can find it under data files on blackboard

Like. Comment. Share.



ISMG2050

The assignments solutions have been posted, it'll be good to review them for the test

Like. Comment. Share.



ISMG2050

A study guide for the exam has been downloaded under data files on blackboard

Like. Comment. Share.

There are no more posts to show.

B.2 A screenshot of a real Facebook page used in the main study

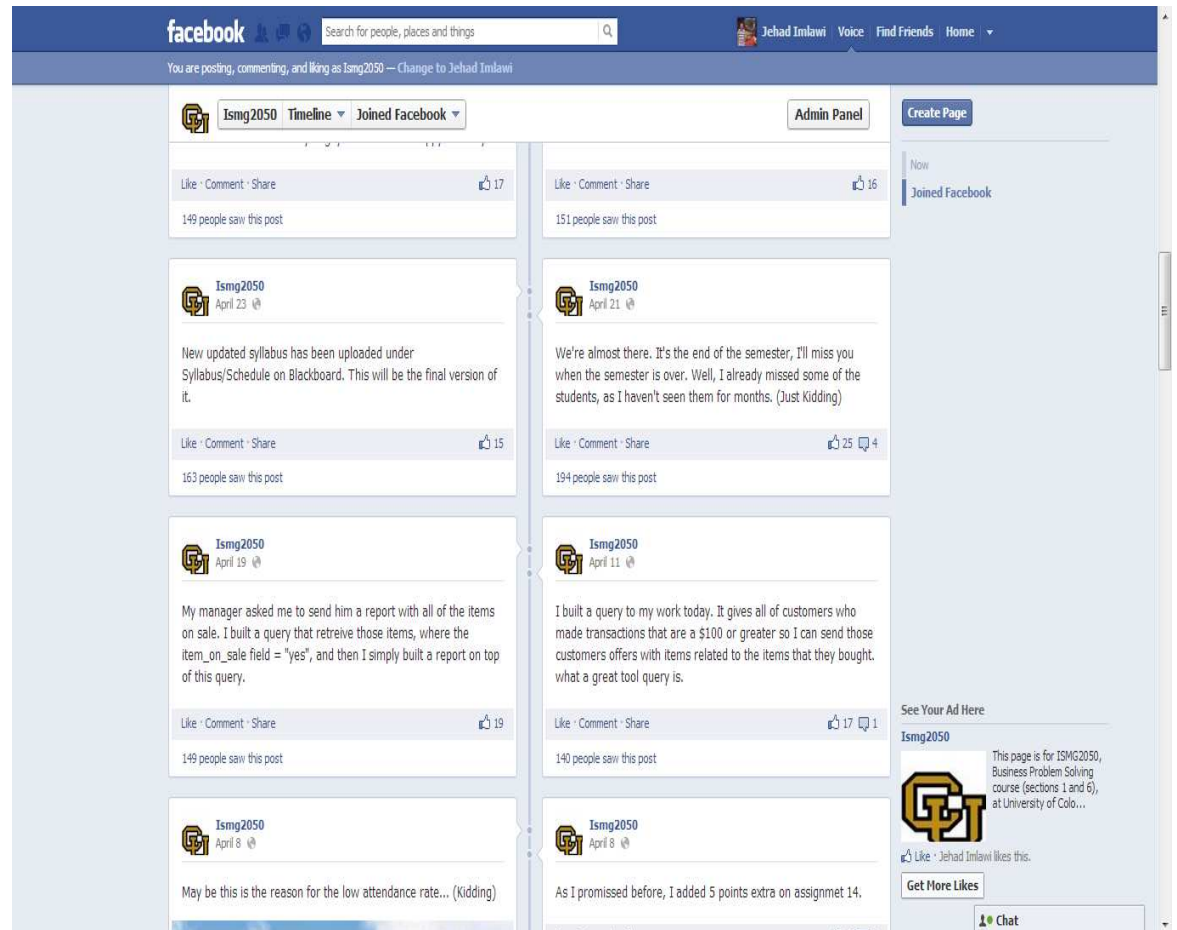


Figure B.1 a screenshot of a real Facebook page used in the main study

C. Instructor Self-Disclosure Scale

(Cayanus and Martin, 2008)

First: Self-disclosure related course interest.

In the exploratory study: Think of the Facebook course page that you just explored. Suppose that you are taking this specific course with this specific instructor who created this Facebook page for her course to communicate with her students. Then, indicate your level of agreement with the following statements as they relate to YOUR INSTRUCTOR on a 1 to 7 scale with 1=Completely Disagree and 7=Completely Agree.

In the main study: Think of the Facebook course page, ISMG2050, which was created by your instructor in this course to communicate with you. Indicate your level of agreement with the following statements as they relate to YOUR INSTRUCTOR on a 1 to 7 scale with 1=Completely Disagree and 7=Completely Agree.

Completely Disagree	1	2	3	4	5	6	7
Completely Agree							

1. My instructor often posts her opinions about current course related events
2. My instructor often posts about her attitudes toward course related events occurring on campus
3. My instructor often posts her opinion about course related events in the community
4. My instructor often shares her dislikes and likes related to the course content
5. My instructor reveals relevant work experience in her posts

Second: Self-disclosure unrelated course interest.

In the exploratory study: Please think of the Facebook course page that you just explored. Suppose that you are taking this specific course with this specific instructor who created this Facebook page for her course to communicate with her students. Then, indicate your level of agreement with the following statements as they relate to YOUR INSTRUCTOR on a 1 to 7 scale with 1=Completely Disagree and 7=Completely Agree.

Completely Disagree	1	2	3	4	5	6	7
Completely Agree							

1. My instructor often posts her opinions about current course events unrelated to the course
2. My instructor often posts about her attitudes toward course unrelated events occurring on campus
3. My instructor often posts her opinion about course unrelated events in the community
4. My instructor often shares her dislikes and likes unrelated to the course content
- My instructor reveals personal information about herself in her posts

D. Instructor Use of Humor Scale

(Frymier, Wanzer and Wojtaszczyk, 2008)

In the exploratory study: Please think of the Facebook course page that you just explored. Suppose that you are taking this specific course with this specific instructor who created this Facebook page for her course to communicate with her students. Then, indicate your level of agreement with the following statements as they relate to YOUR INSTRUCTOR on a 1 to 7 scale with 1=Completely Disagree and 7=Completely Agree.

In the main study: Please think of the Facebook course page, ISMG2050, which was created by your instructor, “Instructor’s name”, in this course to communicate with you. Then, indicate your level of agreement with the following statements as they relate to YOUR INSTRUCTOR on a 1 to 7 scale with 1=Completely Disagree and 7=Completely Agree.

- | | | | | | | | | |
|---------------------|---|---|---|---|---|---|---|------------------|
| Completely Disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Completely Agree |
|---------------------|---|---|---|---|---|---|---|------------------|
1. My instructor posts humor related to course material
 2. My instructor posts funny props to illustrate a concept or as an example
 3. My instructor posts jokes related to course content
 4. My instructor posts humorous story related to course content
 5. My instructor uses language in her posts in creative and funny ways to describe course material
 6. I found that the humor used by the instructor detract from the course experience
 7. The type and amount of humor used by this instructor encourages me to interact (comments/likes) on this Facebook page

E. Student Engagement Scale

(Webster & Ho, 1997)

In the exploratory study: Please think of the Facebook course page that you just explored. Suppose that you are taking this specific course with this specific instructor who created this Facebook page for her course to communicate with her students. Then, indicate your level of agreement with the following statements as they relate to the Facebook page on a 1 to 7 scale with 1=Completely Disagree and 7=Completely Agree.

In the main study: Please think of the Facebook course page, ISMG2050, which was created by your instructor, “Instructor’s name”, in this course to communicate with you. Then, indicate your level of agreement with the following statements as they relate to the Facebook page on a 1 to 7 scale with 1=Completely Disagree and 7=Completely Agree.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
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1. This Facebook page kept me totally absorbed in the browsing
2. This Facebook page held my attention
3. This Facebook page excited my curiosity
4. This Facebook page was fun
5. This Facebook page was intrinsically interesting
6. This Facebook page was engaging

F. Instructor Credibility Scale

(Teven and McCroskey's, 1997)

In the main study: Please think of your instructor, "Instructor's name", who created the Facebook course page, ISMG2050, in this course to communicate with you. Then, Please circle the number toward either level of your agreement regarding your instructor.

1. Unintelligent	1	2	3	4	5	6	7	Intelligent
2. Inexpert	1	2	3	4	5	6	7	Expert
3. Incompetent	1	2	3	4	5	6	7	Competent
4. Uninformed	1	2	3	4	5	6	7	Informed
5. Stupid	1	2	3	4	5	6	7	Bright
6. Trained	1	2	3	4	5	6	7	Untrained

G. Student Motivation to Learn Scale

(Richmond, 1990)

In the main study: Please think of the Facebook course page, ISMG2050, which was created by your instructor, “Instructor’s name”, in this course to communicate with you. Then, circle the number toward either level of your feelings about learning the content in the class.

Motivated	1	2	3	4	5	6	7	Unmotivated
Interested	1	2	3	4	5	6	7	Uninterested
Involved	1	2	3	4	5	6	7	Uninvolved
Excited	1	2	3	4	5	6	7	Not Excited
Dreading it	1	2	3	4	5	6	7	looking forward to it

H. Student Satisfaction with Learning Scale

(Frymier & Houser, 1998)

In the main study: Please think of the Facebook course page, ISMG2050, which was created by your instructor, “Instructor’s name”, in this course to communicate with you. Then, circle the number toward either level of your feelings about learning the content in the class.

Pleased	1	2	3	4	5	6	7	Displeased
Satisfied	1	2	3	4	5	6	7	Dissatisfied
Content	1	2	3	4	5	6	7	Discontent